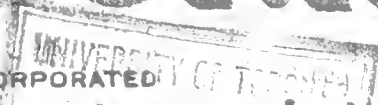
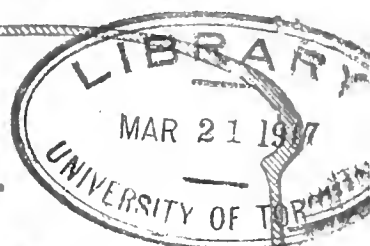


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DECLARATION OF DIVIDEND No. 31.

A Dividend of 10 per cent. (2s. per share) has been declared by the Board for the period ending 31st January, 1917, payable to shareholders registered in the books of the Company at the close of business on 31st January, 1917.

The Transfer Books will be closed from the 1st to the 7th February, 1917, both days inclusive.

The Warrants in payment of this Dividend will be despatched as soon as possible after the 5th March, 1917, but owing to the irregularity of the mail service, there may be a delay of one or two weeks. Warrants despatched from the London Office to persons resident in the United Kingdom will be subject to a deduction of English Income Tax.

By Order of the Board,

TRANSVAAL CONSOLIDATED LAND AND EXPLORATION CO., LTD.
Secretaries.

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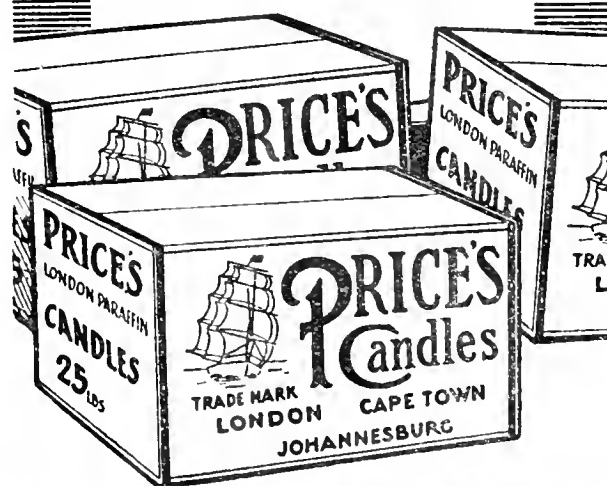
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The Messina (Transvaal) Development Company, Limited.

DIRECTORS' REPORT.

The Directors submit herewith their Eleventh Annual Report and audited Statement of Accounts for the year ended June 30th, 1916.

PROPERTY.—The property consists of the Freehold and Leasehold Farms representing a total of 22,432 acres, standing in the Company's books at a cost of £141,671. A block of coal claims on the Farm Rotterdam, and a block of lime claims in the same neighbourhood, are also the property of the Company.

GENERAL MANAGER'S REPORT.—The Annual Report of Mr. A. B. Emery, the General Manager, is presented herewith. The attention of Shareholders is specially called to this Report.

ORE MILLED.—During the year under review 111,909 tons of ore were sorted and milled.

CONCENTRATES AND MATTE PRODUCTION.—The production of handpicked ore and shipping concentrates was 11,056.48 tons, averaging 42.89 per cent. of Copper, and of Matte 1,737.52 tons, averaging 56.93 per cent. of Copper, making a total of 12,794 tons assaying 44.8 per cent., and containing 5,732 tons of Copper.

ORE RESERVES.—The Ore Reserves are estimated at June 30th, 1916, in terms of long tons of unsorted ore—practically proved ore, 151,409 tons of 5.2 per cent. copper, and possible ore (in the development area, 56,652 tons of 3.4 per cent. copper.

REALISATION OF SHIPMENTS.—The consignments were sold on the basis of an average price of £111 17s. 6d. for Best Selected per long ton of Copper.

RAILWAY.—The new South African Railway Line from Zoek-makaar to Tzaneen was put in operation the 4th of August, 1915, and at that date the guarantee to the South African Railways became effective. The Company's guarantee agreed to make up any losses in operation, such losses not to exceed £35,640 per year.

The amount under this guarantee for which the Company is responsible up to June 30th, 1916, is £30,645 18s. 6d.

DEVELOPMENT.—The record of development accomplished during the period under review is fully set out in the General Manager's Report herewith.

SECURITIES.—The securities against the loan referred to in last year's Report are as follows:—

- 20,850 Shares Emba Caspian Oil Company, Limited.
- 6,000 Shares Edmonton Land Syndicate, Limited (*in Liquidation*).
- 2,694 Shares Santa Gertrudis Company, Limited.
- £770 5 per cent. Debentures, South Winnipeg, Limited.
- 42,000 Shares, South Winnipeg, Limited.
- £34,500 5 per cent. Debentures St. Petersburg Land and Mortgage Company, Limited.

- 2,000 Shares British Foreign and Colonial Corporation, Ltd.
- 15,500 Shares Alberta Land Company, Limited.
- £600 5 per cent. Debentures Alberta Land Company, Ltd.
- 3,000 Shares Southern Alberta Land Company, Limited.

These securities are valued in the Balance Sheet as at 30th June, 1916, at £25,000.

The action in connection with testing the validity of the Canadian Agency, Limited, Debentures was settled by the payment to your Company of £32,500. Of this sum £10,842 14s. 0d. has been utilised in writing down the value of the above securities, and £21,657 6s. 0d. has been placed to the credit of Profit and Loss Account.

PROFIT AND LOSS ACCOUNT.—After making proper allowance for depreciation of plant and machinery, the gross profit for the year is £270,432 16s. 10d. Out of this amount £15,000 has been applied in the payment of Debenture Interest, £36,357 14s. 0d. for Dividend No. 1 of 1s. Share, £42,600 in providing for Income Tax and Profit Tax in South Africa, and £2,980 Directors' additional remuneration under Article 77 of the Articles of Association. Of the balance remaining, £140,000 is placed to Reserve pending the determination of the Company's liability for Excess Profits Duty, leaving £33,495 2s. 10d. This balance, together with £9,517 6s. 6d. brought forward from last year, makes £43,012 9s. 4d. to be dealt with.

The Directors recommend a final dividend of 1s. per share, less Income Tax, payable on December 1st, 1916. After payment of this dividend there will be £6,654 15s. 4d. to be carried forward to next accounts.

Since the close of the financial year, Mr. H. C. Hoover, owing to the claims on his time as Chairman of the Belgian Relief Commission, tendered his resignation as a Director of the Company, which resignation has been accepted with regret. The vacancy has been filled by the election of Mr. John A. Agnew.

In accordance with the Articles of Association, Messrs. J. A. Agnew and C. F. H. Leslie retire from the Board, and, being eligible, offer themselves for re-election.

The Auditors, Messrs. Allen, Atfield and Co., also retire, and offer themselves for re-election.

By Order of the Board,

A. A. KELSEY,

Secretary.

1, LONDON WALL BUILDINGS, LONDON, E.C.

15th November, 1916.

The Messina (Transvaal) Development Company, Limited.—continued.

BALANCE SHEET, 30th JUNE, 1916.

Dr.		Cr.	
To Capital—		By Mining Property—	
<i>Authorised.</i>		As per last Balance Sheet (at cost) ...	£141,671 15 5
1,000,000 Shares of 5s. each ...	£250,000 0 0	.. Prospecting (at cost) ...	27,440 9 7
<i>Issued.</i>		.. Mine Development (at cost, <i>less</i>	
727,154 Shares ...	£181,788 10 0	Redemption written off) ...	£21,051 5 4
.. Six per cent. Debenture Stock ...	250,000 0 0	.. Sinking Shafts (at cost, <i>less</i>	
.. Debenture Interest and Dividends Outstanding ...	6,181 7 8	amount written off) ...	43,928 8 3
.. Sundry Creditors—			64,979 13 7
South Africa (including provision		.. Buildings, Machinery, Plant, etc.	
for Income and Profits Tax in		(at cost, <i>less</i> Depreciation) ...	90,369 2 7
S.A., £42,600) ...	£93,928 14 1	.. Live Stock, Vehicles, Tools, etc.	
London (including Advances on		(at cost, <i>less</i> Depreciation) ...	2,765 7 7
account of Product delivered,			93,134 10 2
£91,682, and provision for Ex-		.. Concentrates, Matte, etc., in Transit and on	
cess Profits Duty, £140,000) ...	264,144 18 11	Hand ...	182,677 19 10
	358,073 13 0	.. Lilliput Colliery (at cost, <i>less</i> Depreciation) ...	4,703 6 7
.. National Bank of S.A., Ltd.—		.. Stores on Hand ...	26,457 6 7
Advance against Shipments ...	60,000 0 0	.. Sundry Debtors and Payments in Advance ...	7,289 6 1
.. Profit and Loss Account—		.. Expenditure in Suspense, re Shipments ...	2,044 16 10
Balance as at 30th June, 1915 ...	9,517 6 6	.. Securities against Loan ...	25,000 0 0
Add Balance as per Account an-		.. Cash at Bankers and in Hand—	
nexed ...	33,495 2 10	London ...	£88,132 7 6
	43,012 9 4	London (Treasury Bills) ...	195,381 7 3
		South Africa ...	40,143 0 7
			323,656 15 5
	£899,056 0 0		£899,056 0 0

A. A. KELSEY, Secretary.

C. F. H. LESLIE,

R. J. FRECHEVILLE,

Directors.

We beg to report that we have audited the Balance Sheet of the Messina (Transvaal) Development Company, Limited, dated the 30th June, 1916, and above set forth, in which is incorporated the South African Balance Sheet certified by the Local Auditors. We have obtained all the information and explanations we have required.

In our opinion such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs according to the best of our information and the explanations given us and as shown by the Books of the Company in London, and the certified Balance Sheet from South Africa.

147, Leadenhall Street, E.C.,
14th November, 1916.

ALLEN, ATTFIELD & CO.,
Chartered Accountants,
Auditors.

PROFIT AND LOSS ACCOUNT for the Year ended 30th June, 1916.

Dr.		Cr.	
To Johannesburg and Mine Expenses—		By Realisation Account ...	£559,202 5 4
Mining, Freight and Transport,		.. Transfer Fees ...	15 5 8
etc. ...	£192,762 19 5	.. Sundry Revenue ...	128 15 3
Development Redemption ...	50,006 0 0	.. Interest ...	4,596 12 7
Depreciation on Machinery,		.. Proportion of amount received on surrender of	
Plant, etc. ...	32,387 0 8	Canadian Agency Debenture Stock ...	21,657 6 0
Railway Guarantee ...	30,645 18 6		
Farm Taxes ...	7 8 6		
Legal Expenses ...	213 16 5		
Agency and Local Board Fees ...	1,329 12 10		
Travelling Expenses ...	357 4 7		
General Charges, Cables, Postage,			
Stationery, Printing, etc. ...	2,277 13 3		
Audit Fee ...	105 0 0		
Exchange and Commission ...	1,523 19 8		
	£311,616 13 10		
.. London Expenditure—			
Directors' and Trustees' Fees ...	1,500 0 0		
Technical Committee Fees ...	1,500 0 0		
Salaries and Rent ...	750 0 0		
General Charges, Cables, Postage,			
Stationery, Printing and Ad-			
vertising ...	279 4 8		
Commission ...	250 0 0		
Audit Fee ...	31 10 0		
Legal Expenses ...	32 12 6		
Examination of Mine and Metal-			
lurgist's Fees and Expenses ...	918 6 0		
	5,261 13 2		
	316,878 7 0		
.. Balance carried down ...	268,721 17 10		
	£585,600 4 10		£585,600 4 10
To Interest on Debenture Stock ...	£15,000 0 0	By Balance brought down ...	£268,721 17 10
.. Income and Profits Tax (provision) in South		.. Amount over-reserved in previous years in	
Africa ...	42,600 0 0	respect of South African Taxes ...	1,710 19 0
.. Provision for Excess Profits Duty, 1915 and 1916	140,000 0 0		
.. Dividend 1s. per share ...	36,357 14 0		
.. Provision for Directors' Additional Remuneration	2,980 0 0		
	236,937 14		
.. Balance carried to Balance Sheet ...	33,495 2 10		
	£270,432 16 10		£270,432 16 10

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THE SOUTH AFRICAN

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WITH WHICH IS INCORPORATED

South African Mines, Commerce and Industries.

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NOTICE.—The postage of this issue of the *S.A. Mining Journal* is: South Africa, 1d. All other parts, 1½d.**CONTENTS.****PAGE**

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Notes and News.

A departmental Government inquiry, presided over by the Boksburg Magistrate, began last week into the circumstances which led to the cessation of work by the miners at Van Ryn Deep on the 5th inst., and is still proceeding as we go to press. We reserve comment on the questions raised till the inquiry is completed.

Van Ryn Deep Strike.

The Premier (Transvaal) Diamond Mining Company, Ltd., has declared a dividend of 6s. 3d. a share on the preference shares of the company. This dividend represents the preferential dividend accumulated on the preference shares in respect of the period 1st May, 1916, to 31st October, 1916, and will be paid to preference shareholders registered as at the close of business on the 15th January, 1917. Warrants in payment of the dividend will be issued to South African shareholders from the head office of the company, Cullinan Building, Simmonds Street, Johannesburg, as soon as the necessary returns have been received from the London branch office. Coupon No. 21 in respect of the dividend on bearer warrants will be paid at the same time as the dividend warrants are issued, and must be deposited with the company on and after the 12th February, 1917.

The twenty-first annual general meeting of members of the Geological Society of South Africa will be held in the Council Chamber, Chamber of Mines, Johannesburg, on Monday, 29th January, 1917, at 8.30 p.m. Business: (1) To receive and consider the annual report and statement of accounts for the year ending 31st December, 1916. (2) To elect thirteen members of council in place of Messrs. Geo. S. Corstorphine, L. C. de Villiers, J. J. Garrard, J. A. P. Gibb, W. G. Holford, C. B. Horwood, E. Jorissen, W. J. Gau, T. N. Leslie, D. P. McDonald, A. R. Sawyer, S. J. Shand, and P. A. Wagner, who retire under the rules of the Society. (3) To elect a president, vice-president, and honorary secretary for the ensuing year. (4) To elect an auditor for the ensuing year. Dr. P. A. Wagner will deliver his presidential address, entitled "Some Problems in South African Geology."

Questions regarding Bantjes were answered by the following information regarding the property, which was cabled to London on the 13th inst.:—
The Bantjes Position. "The annual revision of the ore reserves position is in progress. The investigation is as yet far from complete, but indicates that a considerable amount of South Reef tonnage previously included in the payable reserves will have to be transferred to the unpayable category, also that the total payable ore reserves tonnage will show appreciable reduction. The final calculation of the reserves as a whole will not be completed until towards the end of the current month, when details will be published without waiting for the issue of the annual report. This statement and the proposed early publication have been decided upon in consequence of the apparent circulation of unauthorised and incomplete information."

The local diamond discovery (says the Aliwal North Post) is undoubtedly attracting a great deal of attention in many parts of the country, and it is the opinion of those who have been closely following the course of events that the proclamation of the area as a public digging is likely to bring a very considerable rush of people here. The diggers in other alluvial areas in the country have already had their representatives here viewing out land and making all enquiries; but from a well-informed source we learn that it is very unlikely that any considerable number

of men will be drawn away from such places as the river diggings at the present moment, although our informant also stated that from what he could gather a very large number of people would be here for the proclamation. As to the date of the proclamation, we on Saturday sent a telegram to the Claims Inspector, Barkly West, asking if he could, for public information, give us the date. The reply was: "Date not definitely fixed; expect about end January." However, the proclamation must appear in the *Government Gazette* and 14 days' notice is given, and there is not now much chance of the diggings being proclaimed before the last week of the month.

* * * *

The Government and Aliwal North Diamonds.

Large numbers of people have flocked into the neighbourhood of the Aliwal North diamond fields, attracted by the hope of early proclamation and the usual variety of wonderful tales that are circulated when new fields are discovered. Large numbers are said to be on their way to the place. It will suffice at the moment to point out that most of these people, if not all of them are probably of a class that can ill afford to be kept in suspense, and can certainly not subsist on air if the hopes entertained by them fail to be realised. It is said that the Government has caused an official inspection to be made of the place, and apparently, if the announcement of a later proclamation is correct, the officials concerned are satisfied with what they have seen. Opinions differ as to the value of the area that is to be proclaimed, but all who have visited the district are agreed that the occurrences of payable gravel are somewhat rare and widely scattered. In these circumstances it would be well if the Government were to give the candid opinion of its officers with regard to this particular field. It will be remembered that Dr. P. A. Wagner contributed to this journal a description of the economic value of the latest alluvial discovery at Elandstonein, in the Pretoria district. The Government has doubtless received a report of a similar comprehensive character from those who have been appointed to investigate the new field, and, in view of the unquestionably patchy nature of the Aliwal North diggings, would obviously do a service to the people who are collecting there if they would publish it.

* * * *

From time to time the *S.A. Mining Journal* has drawn attention to the possibilities of molybdenum ore in this country. Owing to the economy in the use of various metals that has been enforced upon the nations in these times, the nature of alloys and their effect in producing great strength in some of the more commonly used metals, together with a concomitant reduction in the weight of metal required for special appliances has been the subject of greatly increased study. Tungsten and vanadium have long been employed in the steel industry, but have recently been taken in hand with excellent results. In consequence of the newly-awakened interest in this metal, prospectors everywhere have been actively engaged in looking for likely deposits. The existence of molybdenite in the tin fields around Appingendam has naturally attracted attention, and those who hold claims in the most promising localities there have succeeded in obtaining capital from London for the purpose of opening up the deposits. Mr. Bill Whittaker, of local fame, is busy carrying out the work on behalf of Johannesburg interests. There appears to be the prospect of a fairly good market for the right quality of ore. The advantages of a molybdenum alloy are shown in the case of the German big guns, and the experience obtained in the use of these is said to prove that a 3 to 4 per cent. alloy increases the life of a piece of artillery about 20 times. In a word, while the use of a 3½ per cent. alloy of molybdenum and steel would increase the cost of a gun by about 25 per cent., the useful life is increased by 2,000 per cent. Rifle barrels, while being made very much stronger, are made proportionately lighter. The value of molybdenum ores has awakened activity in other parts of the world, also, and large deposits which are said to be of an extraordinary kind

are being opened up in Ontario. It may be mentioned that enquiries about molybdenite have several times been addressed to this office from London, during the past few months.

* * * *

The claims of the economic geologist to be considered in the development of the mineral assets of the Union have occasionally been emphasised by us. Quite recently as a few remarks upon the subject were being penned, there came the gratifying announcement that Dr. Corstorphine, and his assistant, Mr. Macdonald, of the School of Mines, had been engaged to investigate the conditions of the Zaaiplaats ore deposits, and within the past few days the last annual report of the Messina Copper Company, which is being published in this week's issue, informs us that an even more exhaustive examination of a similar kind is in progress in connection with the primary and secondary copper ores on that property. It is stated, *inter alia*, that the services of a resident geologist and petrographer have been engaged, and that a large amount of geological information has now been collected and correlated. It will interest many to know that Mr. Max Weber, who was formerly curator of the Geological Collection at the museum adjacent to the University College, has been doing the work referred to. His experience as a petrographer should be particularly valuable in his present capacity.

* * * *

Sir Abe Bailey, M.L.A., and Mr. S. B. Joel paid a visit to Krugersdorp on Wednesday, the former having consented to perform the formal opening ceremony of the new bowling greens at Krugersdorp, and the latter making his first visit since assuming control of the Randfontein Estates. Both gentlemen were most cordially received. A feature of the day's proceedings was a luncheon given by the Mayor (Mr. John Hoatson) in honour of Mr. Joel and the Parliamentary representatives of the district. This was attended by about eighty citizens, and was in every way a successful function. Responding to the toast of "Our Guests," Mr. Joel commented upon the fact that only a few days had elapsed since he had undertaken the control of the Randfontein Estates. It was, he said, a very great undertaking and would need very careful going into. His great object would be to make good relations between Krugersdorp and Randfontein and among the employees. There had, he learned, been unpleasant incidents in the past, but these, he hoped, would not recur, and he promised to do everything possible for Krugersdorp and Randfontein and to promote good feeling. Sir Abe Bailey and Mr. W. H. Robinson also responded, the latter on behalf of his brother, Mr. Joseph Robinson, M.L.A., who is in Europe.

* * * *

Labour and Industry.

The labour returns for December show that there is no change in the labour market in Johannesburg as from the previous month, save that the applications received for employment are the lowest the Department has ever had. Men returning from active service have either gone back to guaranteed jobs or they have been resting for a time during the holiday season. The demand for labour is the same as last month and excepting the engineering trades and qualified miners, who are ever in demand, there is no difficulty in meeting the employers' wants. Building trades are normal and hands are fairly well employed. Engineering is quite busy in all the departments. The Christmas trade was good beyond expectation and printing was quite good throughout the Union. In the Cape Peninsula the demand for labour continues particularly good, save in the building trade. In Pretoria the building trade continued brisk throughout the month. There has been a spurt in the printing trade. The Durban report states that practically all the sugar mills are closed down for the annual repair. There is no increase on the estimate. The crop will be about 112,000 tons, an anticipated shortage of about 5,000 tons.

TOPICS OF THE WEEK.

THE ROBINSON GROUP MEETINGS.

UNUSUAL interest attached to the annual meetings of the Robinson Group this year by reason of the change in the control. Although the alteration actually did not become operative until after the meetings, it undoubtedly did affect the tone and matter of the speeches from the chair. Thus, not unnaturally all three speeches were somewhat in the nature of a defence by Sir Joseph Robinson of his stewardship; and a very capable defence it was, too. Of course, the principle of *caveat emptor* applies in a case like this; and when Mr. Joel at Krugersdorp on Wednesday declared that his new undertaking was "a very great one and would need very careful going into," he meant doubtless to let the shareholders concerned know that his group would naturally not endorse, without making its own examination, all that had been said. This view is confirmed by the declared desire of the new control that "no dividend should be paid so as to give them time to ascertain what policy should be inaugurated in connection with future operations on the Randfontein properties." With this qualification, there is nothing but praise for the very clear statements made by the Acting Chairman at all three meetings. From the full reports of those speeches, which we print elsewhere in this issue, several features emerge. At the Langlaagte Estate the old Estate section is now practically exhausted, but the Block B. is in a position to keep the mill up to its maximum capacity. A scheme of shaft concentration involving the purchase and installation of electric hoists has been adopted after careful consideration, and the expenditure necessary will defer the payment of a further dividend for the present year. It is expected that this expenditure will prove fully justified. In addition, a further outlay has been decided upon in connection with the re-arrangement of the electric plant. The results of the year were summed up by the Chairman in the words: "Despite all the drawbacks incident to the present times, the mine continued to make progress and improved its profits." As regards the ore reserve position, "values have been maintained and the tonnage satisfactorily increased." At the Randfontein Central development has been pushed vigorously, and this policy has been fully justified, as development is now well ahead. A noteworthy feature is that "recent disclosures in the centre of the property have been very promising"—which is of good augury for the Randfontein Deep. A year ago centralisation of ore treatment at the central mill was brought about with advantage to working costs and extraction, and a system of closer mining augured involving the reduction of stope widths to a drastic extent. What are claimed to be "very favourable native labour contracts" were also arranged. Profits tax anomalies have always pressed unduly heavily on the Randfontein Central; and it is noteworthy that "the matter will come before the Supreme Court at an early date" as a sequel to the long-drawn-out fight between the company and the tax-collector. But for the reason already stated a dividend of 5 per cent. might have been declared by the Randfontein Central for the year; and the Randfontein Estates, which holds "the great bulk of the shares in the former company," could have paid the same rate of dividend. At any rate we are assured that the Randfontein Estates "must participate to a large extent in the enhanced dividends and profits which are likely to accrue as time progresses and the mines become more developed, and when normal conditions are restored after the war." In addition, the latter company has a great extent of land belonging to it, comprising 31,726 acres, the larger portion of which is still unexplored. The new boards of the group, while wisely retaining the younger and more active spirits of the old, have now the advantage of the experience of Messrs. S. B. Joel, G. Imroth and John Munro; and if it is possible to realize the glowing forecasts of the outgoing Chairman, the new directorates can be relied upon to do it.

THE CASE FOR THE CONTRACT SYSTEM.

THOUGH the Departmental Committee on the Contract System has not yet actually begun to hear evidence, it is, we understand, compiling a lengthy list of those who are prepared to air their views. In our last issue some of the reasons which combined to set medical men, labour unions, and others against the contract system were set out; and as the merits of the question still appear to be undecided it may be of interest to recapitulate briefly some of the arguments in its favour. For the reluctance of many mine managers and consulting engineers to relinquish a system that had, on the whole, served well in the past, clearly there must have been some basis. In the arguments adduced when the abolition of the system was under discussion, we have a fair statement of that basis. The proposal to do away with contract or piecework, they declared, was utterly unsound, and merely a concession to the day-labour fetish of the Labour Party. Why should the system of contract be prohibited in one special industry, while there was no provision against it in others? The contract system was either a good thing or a bad thing. If good, it should have been retained; if bad, then it should have been eliminated, and the Government should have brought in a special Bill to prohibit contract in all industries and callings without exception. But it was surely illogical to forbid contract in one industry only, and to allow its continuance in others. As a matter of economic fact it was argued that the contract system was a very good thing, and was much more equitable than the payment of an identical all-round wage for day labour. Every contractor, no matter how little work he might do, got paid a minimum, below which a man's daily earnings ought not fall, but above which it might rise in proportion to his skill and efficiency. The so-called contract system in force on our mines was really a bonus system, whereby a man got paid more than the ordinary daily wage according to his results. The skilled man reaped the reward of his skill, and the mine-owner who paid him a bonus benefited by getting the work he wanted done with greater efficiency and rapidity than was possible by day labour and a flat wage rate. To abolish the contract system simply meant to sacrifice the highly skilled men to the less efficient and the comparatively incompetent; to deprive the former of the earnings to which their superior ability entitled them, without adding one farthing to the wages of the latter; and to take away all incentive to proper work by strictly limiting wages. If it were insisted that nothing but day wages should be paid, the effect of it would be twofold. So far as the mining industry generally was concerned, the standard of work, both quantitatively and qualitatively, would be lowered, for it was hardly in human nature to give the same amount and kind of work for 15s. a shift as for 25s. That would retard mining operations, reduce output and profits, and make the mines less able to pay lower wages for day labour than they were able to pay the higher rates for contract work. Then, as far as the more competent workers were concerned, their natural inclination would be to get away as soon as possible from a State where a beneficent Government would not allow them to be paid better wages than the less competent, and to go where their skill could command the full remuneration to which it was justly entitled. Finally, it was pointed out that it was a curious—one might almost call it an insane—phase of trade unionism that sought to prevent men from earning high wages and to drive the most efficient workmen out of the country. The Labour Unions in several Australian States had tried to achieve the same object, invariably with the purely selfish idea of eliminating the successful contractor who had always been a difficulty in the way of reducing the men to the same level of mediocrity. To mask their real reason behind a show of anxiety for the health of the miner was said to be merely patent insincerity. Many of these arguments have gained strength since first advanced, and without attempting to go further into the matter in this issue, enough has been written to show that the whole question is less simple than it looks.

INCREASING IMPORTANCE OF THE TRANSVAAL COAL TRADE.

Prospects and Future Sources of Supply.

(From a Correspondent.)

THERE is more attention given to the South African coal trade to-day, than at any previous period of its history. The returns issued by the Mines Department of the Union show that, with the solitary exception of the Cape Province, the output of coal is steadily increasing. Accurate figures for last year's output are not yet available, but sufficient is known to show that the total output of the Union of South Africa will exceed ten million tons. Naturally, the Transvaal, with its thirty working collieries, thicker seams, better markets, and more easily and cheaply worked coal, is at the head of the other Provinces, and last year produced more coal than the rest of South Africa put together. Then again the Transvaal holds the record for cheap coal, the probable average pit-top price last year being slightly under 4s. 6d. per ton, as against 4s. 4s. 2d. for the previous year. There has been some comment in colliery circles, that whereas the railway raised the railway rate for bunker coal to the ports 6s. per ton without interfering with the trade, the collieries have only been able to increase the price by a few pence per ton. Much of this comment is justified, but where the bulk of the output of coal is sold by long period contracts as in the Transvaal, it takes time to move up the selling prices. The other day a director of one of the newest collieries in the Transvaal drew attention to this fact, but neglected to point out that it was generally the non-associated collieries who were most to blame, and that his colliery in particular had sold thousands of tons of coal at a shilling per ton less than any of the associated collieries in the Middelburg district. Whilst there are so many collieries outside the Transvaal Coal Owners' Association, it will be difficult to lift the prices, besides it must not be forgotten that many large consumers are interested in Transvaal collieries, making an appreciable advance of prices all the more difficult to bring about. Despite war conditions the increase in the output of coal in the Transvaal last year was double that of normal years, and although the Transvaal contains a large reserve of untapped coal deposits, it is not an easy matter to pick up a coalfield with coal equal to the Witbank standard, that is within easy reach of a railway. Unless more railways are built quickly, consumers will soon have to be satisfied to use slightly inferior classes of coal, a tendency towards which can already be noticed in some of the coalfields. Take the Springs district, for instance: the Brakpan generating station of the Victoria Falls Power Company is using a coal which formerly was unsaleable, and to such advantage as to make the power produced at that station cheaper to generate than at any of the other stations. The same thing is happening near Kendal in the Middelburg district, where collieries are working an inferior coal previously considered unsaleable. It is true that the lower railway rate has much to do with the working of these inferior coals, but nevertheless the non-availability of coal equal to the Witbank standard is already beginning to make itself felt. Probably the coalfield most likely to supply a fair quantity of coal before new railways are built, and larger quantities of coal of Witbank standard become thereby available, will be that of the Far Eastern Transvaal, with Breyten say as a centre. For some time past some activity has been displayed in the opening up of new collieries in that neighbourhood, but owing to the thinness of the seams, dykes and other troubles, the coal cannot

be worked as cheaply as in the Middelburg coalfield, whilst the railway rate to the Rand is ninepence to a shilling per ton higher. The Breyten Colliery the pioneer of large scale working in this coalfield, has been at work over six years, and has recently taken additional ground. The output is over 40,000 tons a month, and still growing, being wholly obtained from adits, and conveyed to the screens over a distance of one and a half miles by endless rope haulage. The output practically all goes to the railway for loco. purposes, and the gold mines controlled by the Consolidated Goldfields of South Africa. A new colliery called the Union Colliery has also quite recently been started on Smutssoog, about two miles on the Carolina side of Breyten, whose output also goes principally to the railway for loco. use. Leaving Breyten, in the direction of Ermelo is the Spitzkop Colliery with a branch line five miles long, worked by a Capetown company. The output, some ten thousand tons a month, is taken principally by the railway. A dyke was met with in the workings about a year ago, which appears to have considerably impeded the development of the mine. Nearer Ermelo are two other small collieries, the Bellevue and Townlands Collieries, and turning out between two and three thousand tons per month each. The first named colliery has just been thoroughly overhauled, and its output is sold principally for bunkering purposes in Capetown. The output of the Townlands Colliery goes principally for railway purposes. This new coalfield is already producing over 50,000 tons per month, more than one half of which is sold to the railway. There seems every prospect of a much larger output of coal being obtained from this coalfield in the future, more especially when the new line of railway through Swaziland to Lourenco Marques is built.

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THE SIMMER & JACK—SIMMER DEEP DEAL.

Reciprocal Advantages to Both Participants.

THE following official statement was issued this week:—An arrangement has recently been made between the Simmer and Jack Proprietary Mines and the Simmer Deep whereby the former company obtains the right to mine an area equivalent to about 40 claims situated on the western portion of the joint boundary of the two companies. It is estimated that the arrangement will have the effect of extending the period during which the Simmer and Jack Proprietary Mines, Ltd., will be able to produce a tonnage commensurate with the economic limit of its reduction plant and of prolonging the actual life of the mine at least two years. From the point of view of the Simmer Deep, the monies which that company will receive as consideration for the lease will enable it to meet certain fairly heavy capital expenditure which it will be necessary to incur during the next three years in connection with the development of its lower levels and will appreciably strengthen the general position of the company. The consideration payable by the Simmer and Jack Proprietary Mines for this right to mine has been fixed at £124,000, of which £62,000 is payable on the date of the signing of the agreement, and the balance in five equal annual instalments, the first of

which is payable on the 31st December, 1917. Interest at the rate of 5 per cent. per annum is payable on outstanding balances, and the Simmer and Jack Proprietary Mines, Ltd., may at its option pay off the balance at a quicker rate. The proposals were submitted to and reported upon by an independent engineer, Mr. E. J. Way, M.Inst.C.E., M.I.Mech.E., F.I.C. (Eng.), who stated in his report that he considered that the payment of £124,000 for the 40 claims in question was fair and advantageous to both companies. A circular will shortly be issued to shareholders of both companies containing full details of the lease.

It will be remembered that this matter was referred to by Lord Harris, the Chairman of the Consolidated Goldfields Company, at the last annual meeting of that company. On that occasion Lord Harris said: "It is with pleasure that I am able to refer to the distinct improvement in values on the Simmer Deep and to the fact that a contemplated sale of 40 of its claims on its northern boundary to the Simmer and Jack Proprietary Mines will not only give prolonged life to the latter company, but will enable the Simmer Deep to continue active development by means of the cash proceeds from the sale in question."

PERSONAL.

Mr. R. A. Rouillard, formerly well-known in local mining circles, is on a visit to the Rand.

* * * *

Capt. Carey-Thomas, R.F.C., formerly of the Geldenhuis Deep and now Flight Commander in East Africa, has been on a visit to the Rand.

* * * *

Mr. Warrington Smythe, Secretary for Mines, has resumed his official duties and leaves for Capetown next week for the Parliamentary session.

* * * *

We understand that Mr. E. H. Clifford, Consulting Engineer to the Central Mining and Investment Corporation, is about to leave for England. He intends to offer his services to the Imperial Government, and does not expect to return till the end of the war.

* * * *

The note in our last issue to the effect that Mr. B. Madew had resigned his position with Messrs. A. Goerz & Co., Ltd., with the object of engaging in munition work was not strictly accurate. Mr. Madew's action was prompted by entirely different reasons.

ANSWERS TO CORRESPONDENTS.

All inquiries addressed to the Editor must bear the writer's name and full address. We cannot reply to inquiries by letter, but telegrams with replies prepaid will be answered. Correspondents are requested to write their names and pseudonyms distinctly.

"W.H.B."—Springs, Government Areas, and Van Ryn Deep.

"Shareholder."—Your letter has been handed to the secretary, who will duly reply to you.

"St.G." (Sweetwaters).—The whole question will form the subject of an article to appear at an early date.

"Interested" (Pretoria).—(1) Should hold. (2) Speculative. (3) Sorry, cannot pretend to advise.

"J.M.A.S." (Leeuwpoot).—Should hold all for dividends, but cannot advise you to average. The first-named is regarded as the best of the bunch.

The directors' interim report for the three months ended 31st October, 1916, shows a net profit of £11,639, less £1,661, being estimated Government tax and war levy. The net capital expenditure for the quarter amounted to £197 14s., leaving £598 10s. 9d. unexpended on authorised votes at 31st October, 1916. The following footage was driven, risen and sunk during the quarter in undeveloped ground:—Total, 1,883; on reef, 697; sampled, 550; payable, 460; average width and value of payable footage, 11'3 dwts., value 13'1 dwts. As usual, owing to the undulating nature of the reef, the footage exposing reef was comparatively small. In addition to the above, of 143 feet driven, risen and sunk in developed ground in the werf mynpacht, 69 feet were on reef, of which 40 feet sampled were payable and averaged 10'7 dwts. over 13'8 inches. Reduction works: Ore received from mine, 12,828 tons; tonnage crushed, 12,781 tons; number of stamps operating, 20; number of tube mills operating, 1; assay value of ore before crushing—mill yield per ton, 3'0 dwts.; assay value of mill tailings per ton, 7'9 dwts.; total, 10'9 dwts. Total yield, 6,272'9 fine ozs., equal to 9'8 dwts. per ton. (This does not include yield from by-products.) Work is proceeding satisfactorily in Compound Hill and Werf Mynpacht. 1,587 feet of sinking have been done on the prospecting claims, but so far without disclosing payable values. The new power plant has been in operation for some time, and gives complete satisfaction. The grade of ore mined during the quarter has been unusually high, partly owing to the stopes in Mill Hill being in better ore. It is expected that the results will shortly become more normal.

The Sheba G.M. Co.

The following particulars of the output of the above mine for the month of December are officially supplied: Crushed, 6,925 tons, yielding 1,937 ozs.; working expenses, £7,266; development, £1,300; estimated loss, £730.

A bar of gold, weighing 115 ozs., was produced recently on a small proposition on the West Rand. It was presumably brought into town last week and deposited at one of the banks. When, however, what was deposited was assayed, it was found that the interior was lead, and the only gold was a thin covering. The police are investigating.

IMPRESSIONS OF MESSINA COPPER MINES.

A Brief Description of Climatic and Other Conditions.

A DISTINGUISHED member of the Union Senate, formerly a well-known lawyer and journalist, has written the following interesting description of Messina:—At the extreme northern border of the Transvaal, within a few miles of the Limpopo, is the mining camp called Messina. It is reached by rail from the south. As the tri-weekly train makes its way after dark through the wild and desolate Bushveld there suddenly appear lights ahead—the electric lights of civilisation—and the train soon pulls up amongst them, but at a platform displaying in the way of light only a few oil lamps. This is Messina Station, the most northerly terminal point of the South African Railways. It appears to be customary for many of the residents to meet the train, and their white clothing indicates the tropical nature of the climate. The industry on which the place lives, in fact its *raison d'être*, is a copper mine originally consisting of "ancient workings" carried on by an unknown people, but now worked under modern conditions by the Messina (Transvaal) Development Company, Ltd., a company registered and having its head offices in England. The present manager of the mine is a mining engineer, who came there about two years ago direct from Mexico, and he, with the assistance of a "Health Committee," runs the place autocratically on "Panama" lines, the result being an entire absence of fever, except as regards cases brought in from outside. The mosquito has no chance—he is entirely banned; all bush is cleared away, stagnant water is prohibited, kerosene is freely used, proper sanitation is enforced, and a good water supply is brought in from a few miles away. There is a white population of about 500, and the place as it stands to-day is an object lesson as to how fever can be excluded and our tropical low veld made habitable and even healthy for Europeans. What may happen if the place grows and the present control has to give place to a Municipality of the ordinary up-country type, who shall say? The Mayors of South Africa or the Municipal Association might at present learn a good deal from a visit to this little bit of civilisation in the South African wilderness. The white ant is in evidence, but only to be circumvented. Buildings of reinforced concrete are being put up for employees, in which there is no woodwork at all beyond a few door and window frames set in concrete. Roofs, ceilings, and even pantry shelves are of reinforced concrete. This is rendered possible by the existence of cement works at Pretoria. A point in the construction of these houses as especially adaptable to a hot climate is that they are built on the "rondavel" principle. A "rondavel" is placed at each corner of a square and the intervening space is roofed in and left open at sides, except for mosquito netting—thus a large verandah or, as it is sometimes called, a "porch," is formed in the centre of the house, which really constitutes a cool living room. On one side between the two rondavels a bath room is inserted, while a fifth rondavel connected by a short passage, off which is a pantry, forms a kitchen. The whole is fitted with electric light, water is laid on, and bath and kitchen sink are drained to a mosquito proof French drain. This is a comparatively large house, but smaller ones on the same principle are also being put up and the cost is considerably less than that of the ordinary brick built house. The soil is good, and though the rainfall for the last two years has been very little, there is evidence of what can be done, with a water-supply, in the direction of fruit and vegetable gardens. The Limpopo River, which two years ago was a rushing torrent a couple of miles in width, is not at present running, and its bed is principally sand. There are pools of water in which the crocodiles are said to be getting hungry. Across the river in Rhodesia is the Liebig Company's ranching ground, but there are restrictions on the part of the Union Government as well as on that of Rhodesia, to any crossing of the river by cattle, and so that company has at present no market to the south. The construction of a little over a hundred miles of railway would connect Messina with West Nicholson and so give a direct route from the Transvaal to Bulawayo. Probably this will come in time, though the Rhodesian Government is hardly likely to admit at present such a competing line with the Rhodesian railways on the west. The railway from

Bandolier Kop to Messina and that from Tzaneen, on the Selati line, to Zoekmakaar (a point below Bandolier Kop), has been constructed by the Union Government in terms of an agreement with the Messina Company, under which the company guarantees the loss on working up to an amount equal to $4\frac{1}{2}$ per cent. on the cost of construction. The value to the company of these two pieces of railway is that they obtain thereby direct access to the port of Delagoa Bay for shipment of their copper concentrates, and they at present pay the Railway Administration under their guarantee about £35,000 per year, in addition to paying ordinary mileage charges on what they ship and what they import. The company hold their mining rights from the Union Government (the ground being Crown Lands) under a lease, the rental for which is fixed at a share of profits equal to the amount of the ordinary mining profits tax, but they obtain thereby no exemption from income tax, so that, differing from other mining companies, they pay both profits tax and income tax. This is looked upon as somewhat of a grievance, and on the face of it might well appear to be so. The Government argument is that the profits tax is in this case a rental while the income tax represents ordinary taxation. The net result, however, is that the company contributes a very considerable sum to the Union Government besides the £35,000 railway guarantee, and so the public revenue benefits largely from this out of the way mining development, while the country secures the benefit of being opened up by railway communication at no public cost. When the large area of tropical Crown Lands in the Northern and North-Eastern Transvaal is considered this opening up by means of a railway should prove a valuable asset to the Union. Under these circumstances and seeing that the company thus probably pays as rental considerably more than other mining companies working for base metals pay in claim licences there would seem to be room for consideration on the part of the Government. The Messina Copper Mine is not a large one at present. It is an occurrence of reefs containing copper in the granite formation very similar to the tin occurrence in the neighbourhood of Kuil's River. The mine is now developed some distance ahead, and it is impossible to say to what dimensions it may ultimately extend. The immediate need for copper for war purposes is such that the management is pushing production to the utmost. Concentrates of a value of 45 to 50 per cent. of copper are shipped in bulk for treatment in England, but those of low value are smelted at Messina and shipped as "matte." The daily output of rock is from 300 to 400 tons. This is crushed and treated by an up-to-date plant, and the monthly shipment is the equivalent of about 600 tons of net copper. The company has recently discovered and is now opening up a seam of bituminous coal a few miles south of Messina, which is already bound to be good enough for smelting purposes and may later on serve for boilers also. There is no Magistrate at Messina. The forces of law and order are represented by a police camp. The seat of Magistracy (the local capital) is 65 miles away at Louis Trichardt. Probably it is just as well it should stay there. Messina does not seem to be a capital any more than Johannesburg does.

The probable suspension of operations on the Vogelstruis Estate, is foreshadowed. The property, which was formerly controlled by Sir Donald Currie, Mr. H. Ross Skimmer acting as consulting engineer, has been one of the mainstays of the village of Hamberg for many years, and any industrial curtailment means a large number of white workers affected to the detriment of the entire district. On the other hand industrial development further west is being pressed forward vigorously and a number of small propositions have sprung into being around Lewisham, north of the line at Witpoortje and on the eastern boundaries of the old French Rand and Tudor and Champ d'Or claims. Four mills are now in active operation in the vicinity and a 20-stamp battery is in course of erection near the Luipaardsvlei reservoir of the Rand Water Board.

KLERKSDORP GOLD AND DIAMOND MINING.**Review of 1916.**

DURING 1916 the Warren Hill mine has ceased operations, having exhausted the payable reef, and the plant and buildings have been sold. The same fate has befallen the Quest G.M. Co. The Machavie G.M. Co. has continued its successful operations, and the company is about laying down new plant. The quality of the ore mined has been maintained, and the prospects of the company are excellent. The district gold output since 1903 has been as follows:—

	Ozs.	Value.
1903	1,437	£5,748
1904	2,121	8,484
1905	14,146	56,584
1906	11,081	44,324
1907	8,634	34,536
1908	12,559	50,636
1909	17,048	72,485
1910	18,365	78,836
1911	30,745	130,351
1912	31,718	134,743
1913	33,511	158,775
1913	33,511	142,353
1915	32,151	137,184
1916	19,844 $\frac{3}{4}$	84,161

DIAMOND OUTPUT.

The returns from the alluvial diggings in the South-Western Transvaal have been as follows:—

	Carats.	Value.
January	2,186 $\frac{1}{2}$	£11,818 7 0
February	3,606 $\frac{3}{4}$	20,970 10 6
March	4,041	20,632 16 0
April	3,592 $\frac{3}{4}$	18,165 0 0
May	3,877 $\frac{1}{2}$	20,111 15 6
June	3,461 $\frac{1}{4}$	20,822 6 6
July	3,261	19,533 5 0
August	3,552	20,387 2 6
September	4,291 $\frac{3}{4}$	21,395 2 0
October	3,799 $\frac{1}{2}$	20,761 16 0
November	3,600 $\frac{3}{4}$	20,908 10 6
*December	3,600	20,900 0 0
	43,170 $\frac{1}{2}$	£236,736 11 6

*Approximate.

The returns since 1911 have been as follows:—

	Carats.	Value.
1911	37,861	£198,834
1912	79,079	386,668
1913	81,943	422,616
1914	35,644	141,146
1915	29,920	117,817
1916	13,170 $\frac{1}{2}$	236,736

The diamonds found at Eastleigh and Goedgenoeg for the 11 months to November totalled 617 $\frac{1}{4}$ carats valued at £3,508 6s.—*Klerksdorp Record*.

Commenting on the Rand, a writer in the *Mining and Scientific Press* of San Francisco has much of interest to say on the subject of group control. He thus discourses on this theme of perpetual interest. "The business of the Rand," he writes, "that is, the flotation, financing, and management of the gold mines, is in the hands of the so-called groups, financial organizations founded in the early days by individual operators of great initiative and resourcefulness. These 'big houses,' as they are also called, appear to work under a tacit agreement not to trespass upon each other's preserves; no group has wrested the control or management of mines from another group; even in the case of a fiasco like that of the East Rand Proprietary there were no signs of an attempt to take advantage of the weakness of the old directorate. It is true the Central Mining people obtained the direction of affairs in place of the Farrars, but the Central Mining had a large block of stock in the company and protected the late Sir George Farrar so as to save his face and leave him in his position of chairman. Sir Joseph Robinson has played a lone hand and cannot be included in the pact, but he also has not attempted to wrest control from any other group, nor they from him. At the time of the tenders for the Government Areas the Barnatos were not included in the general group agreement as to the Far East Rand exploitation, so that their solitary action in tendering was likewise no infraction of the general understanding to which we have referred." Those who know most of the subject will doubtless smile at this naive collection of half-truths!

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Correspondence and Discussion.

Comments on Questions Arising in Technical Practice or Suggested by Articles in the Journal—Views, Suggestions and Experiences of Readers.

The Troyeville Election and the University Question.

To the Editor, *South African Mining Journal*.

Sir,—I am desired by His Worship the Mayor to say that he will be much obliged if you can find space for the accompanying letter and note on the objections to the immediate establishment of a Witwatersrand University which have been addressed to each of the Candidates for the Troyeville constituency. The replies of the Candidates will be communicated to you as soon as they come to hand. I am further directed to add that it is the intention of the Council of the University Committee to address similar questions to all Candidates at any subsequent by-elections on the Witwatersrand, and also at the General Elections to endeavour to ensure that the persons returned (irrespective of party politics) shall be pledged to assist in the establishment of a University on the Witwatersrand. The death of Mr. Quinn was an irreparable loss to the cause of higher education on the Rand, and he (the Mayor) therefore trusts that the voters of Troyeville will take care that his successor is pledged to do his utmost—as Mr. Quinn was doing—to secure the establishment here without delay of a University worthy of this community.—Yours, etc.,

R. ROBSON,

Mayor's Secretary.

Office of the Mayor, Johannesburg,
15th January, 1917.

QUESTIONS FOR THE CANDIDATES.

The following is a copy of the letter referred to:—

Dear Sir,—The Witwatersrand University Committee understand that you are a candidate for the Troyeville constituency at the forthcoming by-election, and I am desired to submit to you the following questions:—

(1) What is your view as to the policy hitherto pursued by the Government and Parliament in refusing to supply facilities for University education (excepting in technological subjects) to the youth of the Witwatersrand?

(2) Do you approve of the manner in which University legislation, reversing the Government's previously declared policy, was suddenly sprung upon the country and rushed through Parliament at the beginning of last year without a word of warning or anything having been said on the matter at the Parliamentary election, which took place on October 20th, 1915?

(3) On the 13th March, last, when the University Bills were before Parliament, I wired as follows to Mr. Patrick Duncan, Chairman of the Committee of Rand Members on University Bills:—

"Hope Rand members will press for elimination all references Wernher Beit bequests Cape University Bill. Marais bequest not mentioned Stellenbosch University Bill. Why are Wernher Beit bequests mentioned? Is it because Government wants Parliament to legalise over-riding intention of both donors? Beit bequest was left for Johannesburg University. As Government refuse money for Johannesburg and are parties to diverting it to one Capetown College Johannesburg considers that it has a right to claim a similar amount from the Government. Wernher bequest was left for national university. The Government are not establishing a national university, but are parties to scheme giving money to one college in Capetown. In our opinion that gives other colleges in the Union a claim on the Government for equality of treatment on lines similar to those recommended by Laurence Commission."

The late member for Troyeville, Mr. Quinn, entirely agreed with the views expressed in my telegram. Do you? And if elected, will you press Parliament to compensate the Rand for the loss of these bequests?

(4) Should the Witwatersrand receive from Parliament equality of treatment in the matter of University education to that accorded to the Cape Peninsula, both as regards annual grants and initial expenditure on buildings and equipment?

(5) Should the projected Witwatersrand University be commensurate with the size and importance of the community served, or should it be inferior to other universities in South Africa, say a feeder to the Capetown University, as was suggested by a leading Rand member in the last session of the Union Parliament?

(6) Should the provision of University education on the Witwatersrand be dependent on the charity of private donors, or should it be provided by the State just as elementary education is provided?

(7) Will you pledge yourself to do everything in your power to secure for the Witwatersrand as soon as possible a fully-equipped University financed by the State in which shall be taught all the subjects which are being taught in universities serving similar communities in the United States, Canada and Australasia?

I would direct your attention to the following extracts from a report issued in 1914 by the Witwatersrand Council of Education on "The Educational Status of Boys and Girls under 18 and 17 years of age respectively who have left School":—

"SUMMARY OF CONCLUSIONS.

"1. That a little over 1,000 boys and 1,000 girls in the Witwatersrand area leave school finally each year.

"2. About one-half of the boys (500) embark each year on occupations which hold out no prospect for the future.

"3. About one-half of the lads under 18 in employment at date are engaged in blind-alley occupations

"4. The majority of boys who become apprentices, or who are taken into commercial houses with a view to learning the business begin with a very poor scholastic equipment."

Further, I wish to point out to you:—

(i.) Judging by recent statistics, it appears that had the Witwatersrand been in the United States or Canada we should have had a University with something like 1,500 students.

(ii.) There are extremely few Rand boys and girls receiving University education elsewhere in South Africa—probably under 50.

(iii.) The position on the Rand in the matter of university education is unique in the English-speaking world. It is the only community of its size in the whole of the Overseas Dominions of the British Empire or the United States that is without means of giving complete university education to the younger generation. The importance of this deplorable fact can hardly be exaggerated in a country where the European has to compete against the Kaffir, who is steadily advancing in knowledge and productive capacity.

(iv.) At the instance of this Committee the School of Mines is starting courses in Arts, Pure Science, Medicine and Agriculture in March next. This will involve an expenditure of close on £20,000 a year, towards which the Government has so far refused to contribute anything.

(v.) In the Cape Peninsula an amount equal to 4s. 6d. per head of the European population is contributed by the Union Treasury towards university education; here, an amount equal to less than 1s. 6d. per head of the European population is received from the Union Treasury towards supporting the School of Mines, and the Government and Parliament have definitely refused to assist in providing university education on the Witwatersrand in Arts, Pure Science, Medicine and Agriculture. Henceforth the Cape Peninsula will also benefit from the Wernher Beit bequests, which will be equivalent to at least another 4s. 6d. per head per annum of the European population of the Peninsula.

If you are returned are you prepared to move in the next session of the Union Parliament for a return showing the total amount contributed to the revenue of the Union by (a) the Witwatersrand, and (b) the Cape Peninsula?

I have pleasure in enclosing for your information the following documents:—

Witwatersrand Mayors' Protest, February, 1916.

Correspondence between the Witwatersrand University Committee and Sir Lionel Phillips, May, 1916.

Witwatersrand University: Objections to Its Immediate Establishment Answered.

I am sending the newspapers a copy of this letter and will also communicate to them your answer as soon as it comes to hand.—I am, yours faithfully,

JOHN O'HARA,

Mayor of Johannesburg,

Chairman, Witwatersrand University Committee.

Witwatersrand University: Objections to its Immediate Establishment Answered.

The Main arguments against the establishment without delay of complete University Courses in Johannesburg may be grouped under four heads, namely:—

1.—The present is an inopportune time to move in the matter of University education, seeing that there are so many other calls in connection with the war which the Government and the public have to meet.

The Union Government is largely responsible for raising the issue of University Education in South Africa at the present moment. When the three University Bills were before the Union Parliament at the beginning of last year, Mr. Malan as Minister of Education, and other members of the Government maintained that this was the time for South Africa to put its house in order educationally. General Botha, speaking in Pretoria on the 17th of November last, urged the need of extending the activities of the Pretoria College without delay, particularly in Agriculture, and added that for that purpose the Government proposed to place at the disposal of the College the £100,000, which in the old Transvaal Parliament he had promised for a Transvaal University.

In England also the present is considered the opportune moment for the expansion and popularisation of Higher Education; the feeling being, as expressed by *The Times*, that:—

"Elementary teaching cannot give an outfit for life. . . ."

"If we are to face the future with any confidence after this exhausting war, we must face it as an educated people. We shall not be able to afford to waste the efficiency of a single English child. On all sides we hear the cry, though we see little enough of the practice, for economy. Now, economy means one or both of two things—less expense, greater production. It is said by materialistic economists that lack of capital will render greater productiveness impossible. They forget the only capital that has permanent significance—the men and women of the nation. Our national business is to eliminate waste in human beings and to make each human being capable of realising to the full his or her potential capacity for creative work, whether such work be material or moral or spiritual."

The writer goes on to point out that these ends can only be reached by the best training, and adds:—

"The bulk of humanity is made or marred in youth." (Leading article in *The Times Supplement* on "War and Education," of January 14th, 1916.)

The Witwatersrand University Committee was appointed at a very large public meeting held in the Town Hall, Johannesburg, on March 17th last, and was instructed to do everything possible to secure forthwith adequate provision for the higher education of the rising generation on the Witwatersrand. The Committee consider that they will be failing in their duty if they do not press for the immediate establishment of complete University Courses in Johannesburg. As an English educational authority has said: "Unless we get something done when there is a real impulse for reform, we shall slip back into the old rut when the impulse is spent." The fact that every year hundreds of parents on the Witwatersrand are obliged to send their sons out into the world insufficiently educated is felt by the Committee to be a scandal which should be remedied without a moment's delay, particularly when it is remembered that the European in South Africa has to face the competition of an overwhelming coloured population.

2.—As the European population of South Africa is only thirteen or fourteen hundred thousand, the provision already made for higher education—three Universities—is more than ample for our needs for the time being. It is true that there is no University on the Witwatersrand, but the Witwatersrand children who want University education can get it elsewhere in South Africa. If parents can afford to send their children to a University at all, surely they can afford to send them to Pretoria or to Capetown.

This opinion is held by a large number of people who unfortunately have not had occasion to acquaint themselves with the facts. It represents the attitude adopted in all countries by reactionary politicians who oppose the extension of university education to the people and who wish to keep the University door closed to the poorer classes and opened only to the sons and daughters of the well-to-do section of the community, the parents who can afford to send their children away from their homes for higher education. In the whole of the English-speaking world this party has invariably been defeated and discredited. Let us tabulate a few of the considerations bearing on this point:—

The Witwatersrand has a European population of rather more than 250,000. It is by far the largest compact European community in South Africa. The only higher education provided for this population is that to be obtained at the School of Mines, Johannesburg, in which the teaching is confined to technological subjects. In 1904 the late Mr. Alfred Beit recognised the paramount necessity for this community of higher education in all its branches, and in 1906 he bequeathed £200,000 to the University of Johannesburg; but the Government and Parliament have renounced this gift, and to-day the inhabitants of the Witwatersrand are worse off in the matter of higher education than any similar community in the United States, or in any of the Overseas Dominions of Great Britain. In the United States, Canada and Australasia there is not a single town with a population approaching 100,000 Europeans in which no provision has been made for University Education. According to the last issue of *Whittaker's Almanack*, there are in Canada sixty centres where university education is provided, and 40,000 students. The recent experience of the United States, Canada and Australasia goes to prove:—

(a) that as a general rule modern universities have to depend for the bulk of their students on the localities and States in which they are situated, and that Universities in large cities have an advantage over the others (see "Great American Universities," by Dr. E. E. Slosson);

(b) that had the wishes of the late Mr. A. Beit been complied with and a University established in Johannesburg in 1906, and hav-

ing regard to the size of the community served, it is fairly certain that there would have been now between 1,000 and 1,500 students in that University;

(c) that between 80 and 90 per cent. of the students who would be likely to attend a University in Johannesburg will not get university education at all if no University is established on the Witwatersrand;

(d) that it is not an exaggeration to say that thousands of young men and young women on the Witwatersrand who would have got university education have been deprived of that advantage in life by the policy of the Governments of the Transvaal and of the Union since 1907.

3.—Under the existing circumstances, and having regard to the character of its European population, all that is required on the Witwatersrand is higher education on practical lines in technological subjects only. If a University were established in Johannesburg it would not have enough students to justify its existence.

This appears to be the view of Mr. Malan, Minister of Education, of the Government, and of a majority of the members of the Union Parliament. It is apparently the view which induced the Transvaal Government to deprive Johannesburg of its Arts Courses in 1907, and which induced the Transvaal and the Union Governments to refuse to allow the Witwatersrand to benefit by the late Mr. Alfred Beit's generous gift of £200,000 towards a University of Johannesburg at Frankenburg.

It is also the view that is responsible for the policy of the Government since 1907 in limiting parents on the Witwatersrand to one of two alternatives; they must either leave their sons and daughters without higher education, or send them to be educated in Pretoria or elsewhere.

In effect the Government and Parliament say:—

"We do not believe that there are a sufficient number of students to justify a University in Johannesburg. It is not the class of education the people of the Witwatersrand are likely to require, and, excepting as regards technological subjects, we decline to provide higher education for the Witwatersrand, at any rate, not until the existence of the students has been proved by private effort. If nothing is done by private effort, then nothing will be done. If to-day there happen to be a few young men or young women in Johannesburg who want university education, they can get it at the Pretoria College, which is 45 miles distant, or in the Capetown University, which is 1,000 miles away. If their parents are not sufficiently rich to send their children away from their homes to be educated, such children must do without university education; it is not necessary for them."



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In fact, the Government's attitude in this matter towards such a large community as that of the Witwatersrand is unprecedented in the modern history of Governments of civilised countries inhabited by Europeans. It is in every sense a most regrettable attitude, as it lays the powers that be open to the charge that for some reason they are disposed to penalise the European inhabitants of the Witwatersrand, who are singled out as the only large European community in South Africa which is considered by the Government as being unfit for anything beyond a utilitarian education. They are, it would appear, held to be unworthy of the intellectual culture which is being supplied at Government expense to Pretoria, Capetown, Stellenbosch, Bloemfontein, Maritzburg, Grahamstown and Wellington. In the matter of taxation the Witwatersrand comes first in the eyes of the Government, but in the matter of higher education it is relegated to an inferior and subordinate position. Its European inhabitants are apparently considered such a debased people that they do not deserve in the way of higher education what even the inhabitants of Malta and Hong-Kong have got.

Perhaps some day the voters of the Witwatersrand will wake up to the realisation of the imputation involved in the official view, and will thereafter make it impossible for any person to be elected for a Rand constituency who does not unconditionally and unequivocally repudiate the slanderous doctrine that the youth of the Witwatersrand are unfit for higher education excepting on its materialistic side.

4.—It is not the duty of the Government to provide for higher education in arts and pure science on the Witwatersrand. For the inhabitants of that area such education is a luxury, the provision of which must be dependent upon the bequests and donations of wealthy persons.

Although not stated in so many words, this argument is clearly implied in the attitude adopted towards the inhabitants of the Witwatersrand by the Minister of Education and the Union Government. It was the view held by most Governments a few generations back; but only a very stupid politician would be prepared to openly advocate it to-day. It is not even the view of our wealthy men, otherwise this community would not have been left destitute in this respect. There are few spots in the world where so many and such large fortunes have been made as on the Witwatersrand. Several of our wealthy men have unfortunately died; but, except in the case of the late Mr. Alfred Beit, the Witwatersrand does not appear to have been mentioned in their wills, and it has been repeatedly pointed out that the inhabitants of this area remain worse off in the matter of higher education than any other similar community in the United States, Canada or Australasia. In the United States, during the year ended February, 1916, the bequests, donations and subscriptions in aid of higher education totalled approximately £6,000,000, and it appears that the rich men in that country have been particularly mindful of the needs in this matter of the inhabitants of the towns and districts

in which they have made their money. Perhaps our wealthy men have been discouraged by the callous fashion in which the powers that be deprived this community of the handsome bequest of the late Mr. Alfred Beit. At present the leaders of the civilised world in educational matters hold that higher education is as important as elementary education and that it should be provided by the State. Now, the public of the Witwatersrand should ponder well over this question:—

Are we to be for ever without the means of giving university education to our sons and daughters unless it is provided by some generous millionaire?

There can be no doubt that the result will be that the voters in this area will pledge themselves unhesitatingly not to vote at the next Parliamentary election for any candidate who does not undertake unconditionally to use every possible means in his power to force the Government to provide at the expense of the State a complete system of university education for the Witwatersrand.

[The replies of the candidates arrived too late for insertion in this issue.—Ed., S.A.M.J.]

The Rietfontein Series.

To the Editor, *South African Mining Journal*

Sir,—In view of the discussion which may take place in your journal re the stratigraphical position of the Rietfontein or Du Preez series, as practically asked for in your last issue, kindly allow me to give you a few facts as revealed to me by Nature years ago, before the Geological Survey was thought of. In the lower half of our five-mile-thick blanket age, which is composed of shales, quartzites and pebble beds, we have the following payable series of reefs underlying Main Reef series, viz.: Blue Sky or Mollyneux, Van Ryn or Nigel, Du Preez or Rietfontein, Government Reef series, Promise, and Alexandra Estate beddings. That order can never be upset. Hence some day when more capital comes into the country we shall see six rows of headgears north of Main Reef series.—I am, etc.,

SCOTT ALEXANDER,

"Rand Stratigraphist."

Johannesburg.

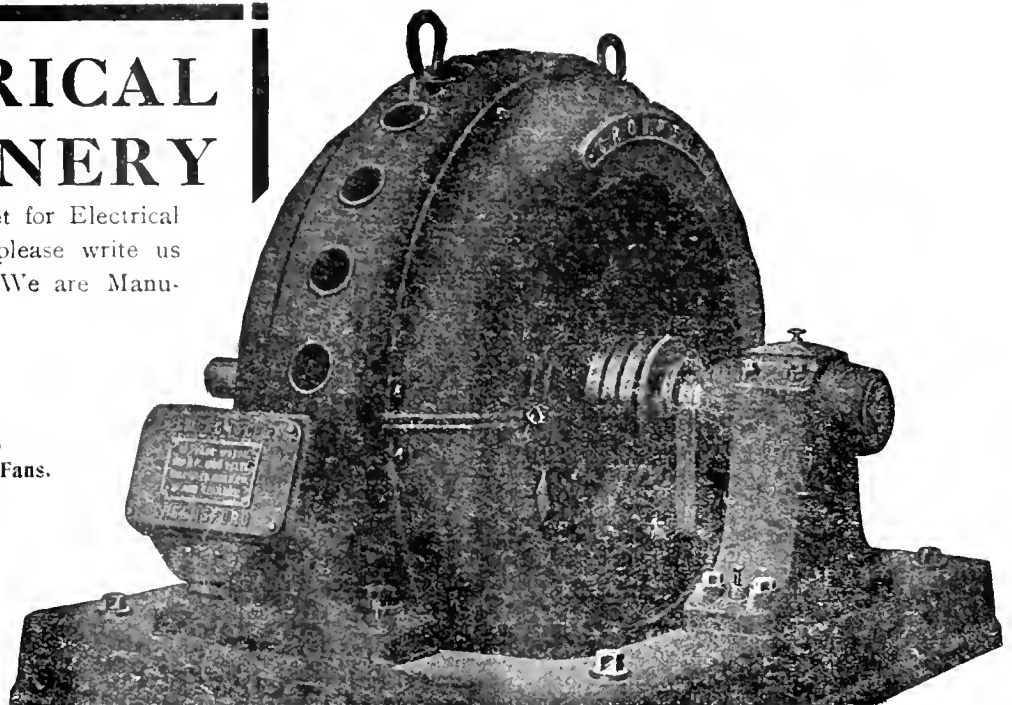
January 16, 1917.

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Engineering Notes and News.

ELECTRICAL SYSTEM OF THE RAND POWER COMPANIES, WITH SPECIAL REFERENCE TO METHODS OF OPERATION AND EXPERIENCE.—VIII.

[By BERNARD PRICE, M.I.E.E., Assoc.M.Inst.C.E., Past-President, S.A.I. of E.E.]

80,000 VOLT TRANSMISSION LINE FAULTS.

	10 months	
	1915.	1916.
Damaged insulators	0	2
Damaged arresters	1	0
Broken telegraph wire falling on lines	2	0
	—	—
	3	2
	—	—

In addition to the above, healthy lines were isolated unnecessarily on three occasions due to wrongly connected or wrongly adjusted reverse power relays or to faulty discrimination of the overload relays in use on these lines.

STEP-DOWN TRANSFORMER FAULTS.

	10 months	
	1915.	1916.
Transformer winding breakdowns ...	6	4
Defective water cooling coil	1	1
Flash-over at transformer terminals when switching off magnetising current	5	0
Flash-over at transformer terminals due to lightning	1	2
	—	—
	13	7
	—	—

In one instance a switch failed to open when the relay operated—otherwise discrimination was perfect in all 20 cases.

GENERATOR AND GENERATOR TRANSFORMER FAULTS.

	10 months	
	1915.	1916.
Stator failures	2	3
Current transformer failure	0	1
Cable and end-box failures	2	1
Transformer flash-overs	0	3
	—	—
	4	8
	—	—

In addition to the above, there were four instances where generators were isolated unnecessarily due in one case to incorrect balance in differential circuits, in another to unsuitable adjustment of an overload relay, in another to

*From Journal of the S.A.I. of E.E. Diagrams and references thereto have to be omitted.

uncalled-for operation of a reverse power relay, and in the other to operation of a differential relay from unknown cause. There were also three occasions when a faulty generator was satisfactorily isolated by hand, the fault being inoperative upon automatic devices of the type installed. In one case the trouble was a faulty rotor, in another a faulty rheostat in the exciting circuit and in the other an accidental interruption of the exciting circuit.

STATION BUSBAR FAULTS.

	10 months	
	1915.	1916.
Mistakes when linking	2	3
Accident to employee	1	0
Switch explosions	5	1
Flash-over of insulator supporting a busbar connection; cause unknown	0	1
	—	—
	8	5
	—	—

Included in the above are two instances of imperfect discrimination, one due to a relay having failed to operate (cause unknown), and the other due to the omission to instal overload relays while differential relays were temporarily out of service.

SUMMARY OF FAULTS.

	10 months	
	1915.	1916.
Consumers' faults	50	21
Sub-station transformer faults	6	4
Sub-station busbar faults	3	4
Overhead distribution line faults ...	62	66
Underground distribution line faults...	4	nil
40,000 v. transmission line faults ...	54	33
80,000 v. transmission line faults ...	3	2
Step-down transformer faults	13	7
Generator and generator transformer faults	4	8
Station busbar faults	8	5
	—	—
	207	153
	—	—

It will be observed that whilst the number of faults is large, the discrimination of the cutouts when operating to isolate such faults has been perfect in all but a relatively small number of instances, and as a consequence interrup-

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tions to supply have been relatively infrequent. This is brought out very forcibly by the following figures, representing the quantity of supply lost during the nett period of all interruptions which have occurred.

Month of year.	Kilowatts of load interrupted multiplied by nett period of interruption in hours. (K.W. hours lost.)	
	1915.	10 months 1916.
January	5,850	90,620
February	9,182	9,625
March	4,355	12,055
April	10,572	603
May	18,583	25
June	31,690	216
July	457	5,451
August	26,365	386
September	3,721	608
October	11,856	5,123
November	2,606	—
December	5,523	—
	131,060	124,742

These figures being the product of demand cut off and nett period of interruption, fairly represent the effect upon supply, in so far as the efficiency of automatic cutouts is concerned, but they do not include the incidental reduction due to the operation of low voltage releases on consumers' switches, nor do they include the reduction due to delay, which inevitably occurs in starting up consumers' operations. Every severe fault produces a momentary drop in pressure over a larger or smaller section of the system, which causes a larger or smaller number of consumers' switches to open, and owing to the special nature of mining operations, about 15 minutes is usually occupied in re-starting a complete installation. It will be observed that during 1915 the total reduction in supply during periods of interruption was only 131,000 units, which is equivalent to a supply for 76 minutes at the maximum rate for that year,

or 0.023 per cent. of the units supplied to all consumers during the year. It goes without saying that the bulk of this reduction was caused by the busbar faults at generating or step-down stations, all of which were due either to mistakes in operation, accident or switch explosions. It is believed that the switch trouble has now been satisfactorily surmounted, and there is little doubt that the operating mistakes have been largely the result of the loss of trained men who are now engaged in military service. As regards 1916, the station busbar faults (excepting one of minor importance in October) occurred early in the year, and it will be seen that in spite of the large number of faults of other types which have since occurred the efficiency of automatic isolation has been almost perfect. In order to show the extent to which the differential protective gear has benefited overhead line operation, the following figures have been extracted from the above statistics:—

FAULTS ON DISTRIBUTION LINES AND 40,000 VOLT TRANSMISSION LINES.		10 months	
		1915.	1916.
Lightning Flash-over without damage	...	42	26
Lightning Flash-over with damage	...	8—50	10—36
Faults from other causes without damage	...	26	30
Faults from other causes with damage	...	40—66	33—63
Total number of faults	...	116	99

The only kind of fault which lightning can produce on an overhead line is an insulator flash-over, and it will be noticed that out of 86 line faults produced by lightning, only 18 caused damage requiring repair. This excellent result is entirely attributable to the rapidity with which the circuits have been isolated by the differential relays. The chance of damage from faults due to causes other than lightning is, of course, dependent upon the nature of the cause.

(To be continued.)

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THE WEEK IN THE MINING MATERIAL AND ENGINEERING TRADES.

Again a Waiting Policy—Awaiting a Guide for Supplies—Coke Industry Taking a Lead—New Prices for Nuts and Rivets—Free Market Assured for the Mines.

BUSINESS is not any too good, in fact things on the Commercial Exchange seem drifting back into a waiting policy. In some quarters there is an idea that anything like new work in connection with the producing mines is being held back, providing it does not check the gold output, until more favourable times. The whole position at the moment is the uncertainty of replacing material when once it has been used up, therefore anything outside urgent or necessary work is being postponed. However, as the freight problem has been with us so long it is being taken very much as a matter of course, nevertheless it undoubtedly places a check on business. Merchants cannot anticipate much, as they usually get their advice of goods per mail boat and often in a few days the goods so advised arrive at one of the coast ports. It is satisfactory to record that the notes in this and other newspapers have created a calmer feeling in reference to the irresponsible rumours at one time floating about in reference to the happenings of South African shipping, and it can now be confirmed, as a result of a visit to the shipping companies, who report that so far as can be ascertained, everything is proceeding quite as well and satisfactory as can be expected under the more stringent war conditions. An importer who is connected with the smaller sundries line, states that he is often in a quandary, when he gets an extra big order, as he is anxious to retain all his old customers. Therefore, in one or two instances a certain amount has been supplied, with more to follow at the first opportunity. According to the telegrams passing between here and the coast somewhat of a similar position exists, as merchants there, whilst unwilling to pass business altogether, convey the idea that before parting with big parcels, they would like to have a notion as to whence and when the replacement is likely to come.

COAL AND COKE.

Whilst the freight uncertainty prevails, the outstanding feature is the business from the Natal and Transvaal coal-fields. There has never been a time in Johannesburg when such extensive business has been passing with these coal-fields in consequence of the partial duplication of the mines and in other cases, extensions for producing more and more coal for the ports, for the great ocean liners diverted to the Cape route. The natural depot for the Natal fields is Durban, from where practically all the material to equip the mines originally came from, but that was under pre-war normal conditions. However, things are very much altered now, therefore a search throughout South Africa has often to be undertaken to get just the thing wanted or an improvised substitute. Anything in the way of girders, or iron and steel work, is much in demand, as well as the smaller sorting up lines, connected with machinery spares and all kinds of oils and consumable stores. Other big demands are for copper wire and electrical goods, accompanied with occasional orders for new and second-hand boilers and engines for the necessary increased driving power. The main thing is the production of coal, but out of that other subsidiary industries have arisen, more particularly that of the manufacture of coke. In the early days of the gold-fields, practically all the coke for smelting purposes came from Durham and Staffordshire at obviously considerable cost. Even before the war this oversea expense had been cut down, and now it has disappeared altogether. In a measure this was due to the initiative of the Vryheid people, who had sufficient enterprise to obtain the very latest machinery, also the intelligence to recognise the great importance of having the best of expert workmen to give the industry a push off. Hence what with good coal and the best of machinery, governed by expert workmen, the South African coke industry has become an established factor with an ever-promising future, wherever suitable coal is available.

STEEL, IRON, AND HARDWARE.

Last week we gave a revised list of prices for hexagon and cuphead bolts, and the new prices for nuts are as follows:— $\frac{3}{8}$ in., 1s. 3d. lb.; $\frac{1}{2}$ in., 65s. per 100 lbs.; $\frac{5}{8}$ in., to $1\frac{1}{4}$ in., 62s. 6d.; $1\frac{1}{2}$ in., and $1\frac{3}{4}$ in., 70s.; $1\frac{1}{2}$ in. to $1\frac{3}{4}$ in., 75s.; 2 in. upwards, 85s. Rivets also have been revised: 3-16 in., 1s. 1d. lb.; $\frac{1}{4}$ in. and 5-16 in., 1s. 3d.; 7-16 in. and $\frac{3}{8}$ in., 9d.; $\frac{1}{2}$ in., 62s. 6d.; $\frac{5}{8}$ in., 50s.; $\frac{3}{4}$ in. upwards, 49s. per 100 lbs. All turned steel shaftings have been advanced a penny per lb. All these new prices and others are fixed as a guide or standard to the trade generally, but when it comes to tendering on the Commercial Exchange the strenuousness of competition often means a fraction less—but only a fraction. Although "rings" have been tried here, and no doubt will be again and again, yet the extent of our mining material market is such that competition seems to keep the salutary check so necessary upon things generally, and another reason is that if any undue grasping occurred, the world's markets are open for the mining industry to purchase in, and their orders are looked upon as cash. With our wonderful record output of gold for 1916, there need be no misgivings about trusts, or anything else for the matter of that in coming values. The feature of a record output under war conditions existing in South Africa, as well as Europe, must be such a great advertisement that it will attract more and more firms from all parts of the world to cater for the requirements of our mining industry. Hence a free market is assured.

COMMERCIAL BROKING.

Although some merchants are short of certain lines, yet that does not always mean a shortage in Johannesburg, as Johannesburg is well supplied with stocks for many months to come of all ordinary goods, both for the mines and commercially. However, what is happening is that merchants, being under the uncertainty of the shipping question, are looking round, chiefly through the commercial brokers, and filling up stocks which may have fallen below zero, and this is where the special knowledge and acumen of the brokers come to the mutual advantage of those immediately concerned. The travellers along the Reef also receive a little better welcome than when things are at a dead level, when nobody seems to be wanted and most men of the bag seem to be in the way, and then there is a real "waiting policy" for our hustling friends.

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TIMBER AND BUILDING MATERIAL.

The merchants are preparing lists of prices and some advances may be expected, when they are published. These lists are not issued so regularly as they were. The demand for timber for the mines is much the same as some one of the groups is always in the market to keep up timber reserves. Our list of standard prices can be taken as correct, but in purchasing small lots, particularly when the deals are picked or required in extra lengths, special prices are charged—just a fraction over the ordinary. Building of private residences is very slow indeed, but additions to business premises continue quite fair, hence the demand for the best classes of timber and other sound materials. It is almost surprising what a lot of shop fitting one sees in the principal streets, as well as in premises abutting on the best business thoroughfares, which shows a remarkable confidence in Johannesburg's future.

Linseed oils and turps are firmer in price and maybe other materials are, but the absence of cables during this month is a noticeable feature, therefore there is little or no gauge to the oversea market conditions. For oils and colours there is a fair demand from the country districts, but business is slack in Johannesburg and even the Reef, out the eastern side, has slackened off. At the beginning of the month there were signs of speculators securing white lead, oils, etc., for a rise, but whatever happened then, business in that respect has quieted down and anything resembling activity is absent.

PLUMBING, FENCING, ETC.

The severe hail and rain storms brought a lot of work to the plumbers, in connection with private houses and business premises. It was surprising how some of the best buildings in town suffered from leakages, which are explained by the hail stones accumulating and gradually melting, which gave the water the opportunity of penetrating at the joints of the roofing iron. The manufacturing of new tanks has received a new lease of life, chiefly from the demand from the country districts. However, the country districts have been very poor of late in giving orders for new fencing, but the manufacturers in that line have been more than compensated by orders from the mines for screening and other similar materials.

THE SECOND-HAND YARDS.

These yards have been thoroughly overhauled for large piping, in sizes ranging from 7, 8, 9, and upwards, and big siles of both second-hand and new have been recorded. Large sizes are getting scarce, as not only is Johannesburg in the market, but both Natal and Rhodesia. The latter place is purchasing more freely of all mining material, and although consumable stores are available from the Cape, which is their natural source of supply, yet they come more and more to the Johannesburg market for machinery spares, pipes, pipe fittings, and all the other sundries required for the running of batteries and other machinery required in gold mining, etc. There was quite a demand for second-hand good roofing iron during the heavy rainy weather, but that has fallen off at the time of writing. The farmers are busy on the land and the mines and others outside a municipal area never build much during the rainy season.

REVISED PRICE LIST.

Approximate war prices, subject to quick change.—Mining and building hardware: Iron, imported, round up to 1 in., 30s.; 2 in. to 6 in., 25s. per 100 lbs. Ditto, square, up to 1 in., 27s. 6d.; 1½ in. to 2½ in., 23s. 6d.; 2½ in. to 5 in., 25s. Flats, 3-16 in., 37s. 6d.; all from ¼ in. up, 30s. Angles, ½ in. to 3-16 in., 40s.; ¼ in., 35s.; 5-16 in. to ¾ in., 30s., excepting 5 x 4 x ¾ in.; mild steel bar, 4½ d. lb.; drill, 7 lb.; steel plates, 10ft. by 4ft. by 1-16th in., 35s.; ½ in., by 3-16 in., 32s. 6d.; ¼ in. to 5-16th in., 31s.; ¾ in., up to 30s.; 10ft. by 5ft. by 1-16 in., 36s. 6d.; ½ in. and 3-16 in., 34s.; ¼ in. to 5-16 in., 32s. 6d.; ¾ in., up to 31s. 6d.; intermediate sizes up to 12ft. by 6ft. by 1-16 in., 37s.; ½ in. and 3-16 in., 34s. 6d.; ¼ in. and 5-16 in., 33s.; ¾ in. and up 32s., all at per 100lb.; hexagon and cuphead bolts, ¾ in. dia., 1s. 9d. lb.; 5-16 in. dia., 1s. 6d. lb.; ¾ in.

dia. up to 3 in. long, 1s. lb.; ¾ in. dia. up to 3½ in. long, 11d. lb.; ½ in. dia. up to 2½ in. long, 62s. 6d. 100 lbs.; ¼ in. dia. up to 2½ in. long, 60s. 100 lbs.; ¾ in. dia. up to 2½ in. long, 55s. 100 lbs.; ¾ in. dia. up to 2½ in. long, 52s. 6d. 100 lbs.; ¾ in. dia. up to 2½ in. long, 52s. 6d. 100 lbs.; ¾ in. dia. up to 2½ in. long, 50s. 100 lbs.; ¾ in. and 1 in. dia., same price as ¾ in. diameter; nuts, ¾ in., 1s. 3d. lb.; ½ in., 65s.; ¾ in. to 1½ in., 62s. 6d.; 1½ in. and 1½ in., 70s.; 1½ in. to 1½ in., 75s.; 2 in. up, 85s.; washers, all sizes, 45s.; rivets, 3-16 in., 1s. 1d. lb.; ¼ in., 5-16 in., 1s. 3d. lb.; 7-16 in., ¾ in., 9d. lb.; ½ in., 52s. 6d.; ¾ in., 50s.; ¾ in. up, 19s. 100 lbs.; shoes and dies, 32s. 6d. to 35s. per 100 lbs.; rails, £23 per ton; picks, 4lbs., 27s. per doz.; shovels, 32s. 6d. to 50s. per dozen; drill hammers, 5¼ d. lb. to 6d. lb.; hammer handles (best American), 14 in., 3s. 6d., 24 in., 7s., 30 in., 9s. 6d., 36 in., 13s., per dozen; metal, anti-friction, 1s. per lb.; galvanised iron, 24 gauge, 6 ft. to 10 ft., 10½ d., 11 ft. 11d., 12 ft. 1s.; 26 gauge, 6 ft. to 8 ft., 8½ d.; 9 ft. and 10 ft., 9d.; flat galvanised, 18 to 24 gauge, 35s. to 39s.; 26 gauge, 36s. 6d. 100 lbs.; floor brads, 36s.; ceiling, 40s.; wire nails, 37s. 6d. to 55s. per 100 lbs.; solder, 50 per cent., 1s. 3d. per lb.; locks, rim, 48s.; mortice, 60s. dozen; barbed wire, 26s. to 30s. 100 lb. coil.

Timber: Deals, Baltic, 9 x 3, short and medium, 1s. 1½ d.; longer lengths, 1s. 2½ d. to 1s. 3d. (Oregon, 1s. 1d.); flooring, 4½ x ¾ and 6 x ¾, 6½ d. to 6¾ d. per sq. ft.; do., 4½ x 1½, 9d.; and 6 x 1½, 9d.; ceilings, 6 x ½, 3¾ d. to 3¾ d. per sq. ft.; Oregon, 4 x ½, 4½ d.; pitch pine, 8s. per cub. ft.; Oregon, 5s. 9d. to 6s. per cub. ft.; clear pine, ½ in. x 12 in., 7½ d. per ft.; 1 in. x 12 in., 8½ d.; teak, small planks, 14s. 9d. per cub. ft.; do., large, 15s. 6d.; jarrah, 9s. 6d. per cub. ft.; poplar, 1 in. x 12 in., 10d.; scantling, 1s. 1d. to 1s. 2d. per ft., 3 x 9.

Bricks, cement, lime, etc.: Cement, nominal, 31s. 6d. per cask; Pretoria Portland, 9s. 3d. per bag; 8s. 3d., truck loads; lime, white, 7s. 9d.; truck loads, 6s. 9d.; slaked, do., 5s.; blue, 3s. 3d.; plaster lime, 4s.; bricks, stock, delivered, 37s. 6d. to 45s.; wire cuts, 50s. to 70s., pressed 70s. to 80s. per 1,000, road transport difficult to obtain; salt and white glazed bricks, £27 10s. per 1,000; tiles, roofing, £17½ square; glazed tiles, 10s. 6d. to 17s. 6d. yard; paving cement tiles, 8s. 6d. yard laid; terra cotta tiles, £15 per 1,000; reinforced concrete columns, 6 ft. plain, 22s. 6d., fluted, 24s.; fireclay bricks, £9½, good average, per 1,000; clay chimney pots, 80s. per doz.; fire clay, 37s. 6d. ton on rail.

Oils, paints, lead, oxides, glass: Linseed, raw 30s.; boiled, 30s. per 5 galls.; white lead, 70s. to 72s. 6d. 100 lbs.; turpentine, 52s. 6d. 2 4 galls.; 10 1, 57s.; coal tar, imported, 10s. to 12s. 6d. per 5 galls.; oxide in oil, 36s. per 100 lbs.; dry oxide, 21s. to 22s. 6d.; S.A. crude oxide, 12s. 6d.; linseed oil putty, 4s. 6d. per 12½ lbs.; bladders, 36s. casks of 100lbs.; grease A.F. axle, 23s. 6d. to 25s. per 100 lbs.; tallow, 1s. per lb.; White Rose paraffin, 17s. 3d. 2/5; Laurel do., 17s.; petrol, 27s. 6d. 2/4; motor oil, 6s. to 7s. 9d. per gall.; engine lubricating oils, 23s. to 36s. 6d. per case; cylinder, 25s. to 40s.; paints in tins, 10d. to 1s. per lb., according to quantity, and if ordered to be mixed, 20 per cent. on pre-war rates. British plate-glass, ¼ in., 3s. 6d.; do., mirror, 4s. 6d.; window, 16oz., 1s. to 1s. 3d. foot.

Chemicals: Mercury, £21½ per 75 lb. bottle; bichromate potash, 3s. 6d. lb.; chlorate, 2s. 6d. lb.; permanganate, 10s. 6d. lb.; alum, 4d. lb.; carbolic acid, 6s. 6d. lb.; borax, 87s. 6d. 100 lbs.; cyanide soda, 1s. 5d. lb.; hypo, 9d. lb.; acetate lead, 70s. 100 lbs.; litharge (assay), 70s. (commercial), 55s. 100 lbs.; zinc sheets and blocks, 1s. 6d. lb.; plumbago crucibles, 5d. per number.

Electrical Goods: Lamps, high volts., British, Holland & American, 16s. to 21s. wholesale, and 21s. to 27s. dozen, retail; carbon lamps, 7s. 6d. per dozen; pure rubber flex, 5d. to 6d. per yard; 3/20 coils of wire, 25s.; do., 3 22, 21s. 6d.; tubing, 13s. to 14s. 100 ft.; keyholders, 1s. 6d. to 5s. each; round blocks, 3½ in., 3s. 6d. doz.; lamp holder cord grips, 13s. 6d. to 14s. 6d. doz.; switches, 5 amp., 13s. to 14s. doz.; British glass shades, 24s. to 36s. doz.; Bohemian shades finished; porcelain shackles, 14s. 6d. doz.; do., bobbins, 9s. 6d. to 10s. per 100; cleats, 18s. per 100; P.O. insulators, 18s.; motor, 3 h.p., about £30 to £35, new.

THE WEEK IN THE SHAREMARKET.

Stagnant—Favourites Quiet—Outside Stocks Weak.

AFTER the call on Friday Bantjes touched bottom at 7s. 11d. sales, but afterwards recovered to 8s. 9d. Kleinfonteins dropped to 19s. 9d., but also hardened subsequently. On Saturday the market was as dull as ever, though prices were on the whole firm at last rates quoted. The disinclination to deal may be gauged from the fact that no quotation whatever was made for Modder B. or Modder Deeps. After the call, business widened somewhat with an upward inclination in prices. Monday morning brought little of note, save another set-back in Bantjes and weakness in Kleinfonteins and Springs Mines. After the call, Bantjes received some support, and there was a consequent recovery. On Tuesday morning Kleinfonteins and Wit. Deeps were the chief sufferers, the latter finishing up at 14s. The Modder stocks were generally firm and the remainder unchanged. Wednesday's call brought some slight relief to Kleinfonteins and Wit Deeps, and there was also an indication of hardening in Government Areas and Sub Nigels. The remaining prices were firm notwithstanding a certain amount of liquidation. On Thursday morning no special stocks were picked out for punishment, but the whole list, with hardly an exception, showed a falling away, though not to any material extent. It looks as if it would take still some little time yet to liquidate the various time bargains. Outside stocks have naturally felt the pressure and weakened in sympathy with their betters. The following quotations are the latest available:—Monteleos, ex rights, 31s. 6d. sellers; New Farms, 1s. 6d. sales; South Van Ryns, 6s. to 6s. 9d.; Randfontein Explorations, 2s. 6d. buyers; Antimonys, 3s. 9d. sellers; Henderson's Consolidateds, 4s. sellers; Henderson's Options, 1s. sellers; Sakalava Oils, 7s. 6d. sales; Old Daggafonteins, 10s. to 10s. 6d.; Daggafontein Options, 8s. sellers.

There was no improvement in prices on Friday morning; in fact, the general tendency was downwards. Springs Mines came in for a bad shaking up with sales at 51s. and 53s. 9d., closing 53s. 9d. buyers. Modder Deeps were also decidedly on the downgrade at £6 8s. and £6 7s. 6d. sales. Other sales included Mines Selections at 19s. 9d.; City and Suburban, 33s. 3d.; Consolidated Langlaagtes, 24s. 6d.; Cloverfields, 7s. 10d.; Randfontein Deeps, 6s. 3d.; Randfonteins, 15s. 6d.; Rand Klips, 8s. 10d.; Van Ryn Deeps, 62s. 9d.; and Wolluters, 9s. 10d. The remaining stocks were unchanged.

	Fri., 12th.	Sat., 13th.	Mon., 15th.	Tues., 16th.	Wed., 17th.	Thurs., 18th.
African Farms	8 0	8 1*	8 3	8 0*	8 0*	8 0*
Apex Mines	—	—	6 3†	6 0†	5 9†	5 0*
Aurora Wests	13 0*	13 0*	—	13 0*	13 0*	—
Bantjes Cons.	8 6	8 8	7 9	8 0*	8 1	8 0
Brakpan Mines	91 0*	91 0*	90 0*	90 0*	90 0*	89 0*
Breyten Collieries	—	—	—	—	16 0*	18 0†
British South Africa	—	13 0†	—	12 9†	—	12 0*
Bushveld Tins	—	—	—	—	—	0 4*
Cinderella Cons.	5 0†	4 0†	5 0†	5 0†	5 0†	5 0†
City and Suburbans	34 0*	34 3*	34 0*	34 0*	33 6*	—
City Deeps	78 6†	78 3†	75 0*	77 6†	77 0*	76 9
Cloverfield Mines	8 0*	8 0*	8 0*	8 0*	8 0*	7 9*
Clydesdale Collieries	13 0*	13 0*	—	13 0*	13 0*	13 0*
Concrete Construction	2 0*	2 0*	2 0*	2 0*	2 0*	2 0*
Cons. Investment	—	—	18 0*	—	—	—
Cons. Langlaagtes	25 0†	25 0*	—	25 0	25 0*	—
Cons. Main Reefs	—	17 0	16 10‡	16 6*	16 9†	—
Cons. Mines Selections	—	20 6*	20 0*	19 6*	20 0	19 6*
Coronation Collieries	—	—	—	31 0	—	—
Coronation Freeholds	—	—	0 2*	—	—	0 2*
Crown Diamonds	—	2 3*	2 0*	2 6*	—	2 9*
East Rand Coals	2 3*	—	2 2*	2 2*	2 2	—
East Rand Deeps	—	1 1*	1 1*	1 1*	1 1*	1 1*
East Rand Mining Estates	11 6*	—	14 0†	13 6	—	—

*Buyers. †Sellers. ‡Odd lots. §Ex London.

	Fri., 12th.	Sat., 13th.	Mon., 15th.	Tues., 16th.	Wed., 17th.	Thurs., 18th.
East Rand Props.	12 0†	11 3*	—	11 9†	11 9†	—
Eastern Gold Mines	1 2*	1 3*	1 3*	1 3*	1 3*	1 3*
Ferreira Deeps	—	—	—	—	27 0†	—
Frank Smith Diamonds	4 6	4 7	4 7	4 7*	4 8	4 7*
Geduld Props.	41 0*	40 6*	41 0*	40 0*	40 6	40 3
Glencairns	—	—	1 0*	1 0*	1 0*	1 0*
Glencoe Collieries	9 0*	9 0*	9 0*	9 0*	—	9 0*
Glynn's Lydenburgs	15 0†	15 0†	15 0†	15 0†	15 0†	15 0†
Government Areas	53 0*	53 3	53 6	53 3	53 6	53 0*
Jupiters	—	6 3*	6 0	6 0*	6 3*	6 6
Klerksdorp Props.	—	—	1 9	1 9*	1 9*	1 9*
Knight Centrals	9 0	8 9*	9 6	8 5	8 3*	8 6
Knights Deeps	—	—	—	—	—	25 0†
Lace Props.	5 6*	5 3*	5 6	5 3*	5 3	5 1*
Luipaardsvlei Estates	8 0†	—	7 0*	—	—	—
Lydenburg Farms	6 3*	6 0*	6 1*	6 0*	6 1	6 1*
Main Reef Wests	4 0*	4 0†	3 6*	3 3*	3 4*	3 6*
Middelvel Estates	—	1 6*	1 3*	1 6*	—	—
Modderfontein B.	144 0*	—	144 0*	146 0	146 0*	145 0*
Modder Deep Levels	133 0*	135 0†	130 0*	131 6	131 0	131 6
Leeuwpoot Tins	—	—	12 6†	13 0†	13 0†	11 6*
Natal Navigation Colls.	19 0*	—	19 0*	19 0*	19 0*	19 0*
New Boksburgs	—	—	1 5*	—	1 7	1 6*
New Eland Diamonds	17 6*	17 3*	20 0†	—	17 6*	17 6†
New Era Cons.	8 6*	8 6*	8 6	8 6*	8 6*	8 6*
New Geduld Deeps	6 4*	6 4*	6 6	6 9	—	6 2*
New Heriots	43 0*	42 0*	42 0*	—	—	—
New Kleinfonteins	20 0	20 0*	19 6	18 9	19 0*	19 0*
New Modderfonteins	363 9*	365 0*	365 0*	365 0*	370 0†	370 0†
New Rietfonteins	0 10*	—	—	0 10*	—	—
Nourse Mines	21 3*	22 0†	—	20 6	20 6	—
Premier Deferreds	140 0*	—	—	—	—	146 6*
Premier Preferreds	135 0*	—	—	—	—	—
Pretoria Cements	75 3*	—	75 0*	—	—	—
Princess Estates	—	—	—	—	—	2 0†
Rand Collieries	2 9*	2 9*	2 9*	2 9*	2 9*	2
Rand Klips	9 3	9 1	8 10	9 0	9 0	9 0
Rand Nucleus	1 6†	1 6†	1 3	1 3*	1 3*	1 3*
Randfontein Deeps	6 9*	6 11	6 10	6 3*	6 5*	6 4*
Randfontein Estates	15 3*	16 0*	15 6*	15 3	15 6	15 0*
Roberts Victors	—	9 0*	—	—	—	9 0*
Rooiberg Minerals	7 0	—	—	6 6	6 0*	6 0*
Rondepoort Uniteds	9 6†	9 3†	9 6†	9 6†	—	7 3*
Ryan Nigels	—	—	2 0*	2 6*	2 0*	—
Shebas	1 3*	1 3*	1 0*	—	—	—
Simmer Deeps	3 0*	—	3 6†	—	—	—
S.A. Breweries	28 0*	—	28 0*	23 0*	28 0*	28 0*
S.A. Lands	4 6*	4 7	4 4*	4 5*	4 4*	4 5†
Springs Mines	57 9	58 3	57 3	57 6	57 4‡	56 3
Sub Nigels	22 3	22 3*	22 3	22 6	23 0	22 9
Swaziland Tins	—	—	—	—	30 0†	—
Rand Selections	67 0*	67 0*	65 0*	—	66 0*	65 0*
Transvaal G.M. Estates	17 6*	17 6*	17 6*	18 0	17 0*	17 0*
Van Ryn Deeps	63 3*	62 9*	63 6	63 0*	62 9	62 6
Village Deeps	27 6†	—	26 6†	26 6†	—	26 6†
Vogel Cons. Deeps	2 0†	1 6	1 4*	1 4*	1 4*	1 4*
Welgedachts	23 0*	22 0*	—	—	25 0†	24 0†
West Rand Cons.	1 6*	—	—	—	—	—
Western Rand Estates	2 3*	2 3*	2 3	2 6†	2 3*	2 3
Witbank Collieries	—	—	—	—	—	42 6*
Witwatersrands	—	47 0†	—	—	—	—
Witwatersrand Deeps	17 6	17 6†	17 0†	14 6	15 6*	16 0
Wolluters	10 0*	10 0*	10 0*	10 3	10 0	9 9*
Zaaiplaats Tins	7 4*	7 3*	7 3	7 0	7 0	6 10

There were buyers during the week of Union 5 per cent. Loan round about £100 10s.

*Buyers. †Sellers. ‡Odd lots. §Ex London.

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The Week's Meetings.

LANGLAAGTE ESTATES.

The annual general meeting of shareholders of the Langlaagte Estate and G.M. Co., Ltd., presided over by Mr. J. C. K. Pollock on Jan. 12, was attended by Messrs. N. J. Scholtz, W. H. Robinson, J. H. Tiley, J. H. Barker, and T. W. Robson.

The Chairman, in moving the adoption of the report and balance sheet, said: Gentlemen.—In submitting to you the balance sheet, expenditure and revenue account, and appropriation account for the year ended 31st December, 1916, I have to report that during the period under review 200 stamps crushed 595,507 tons, yielding 166,364 fine ounces of gold, valued (with sundry revenue) at £700,619, equal to 23s. 6.36d. per ton milled. Working costs amounted to £543,558, or 18s. 3.06d. per ton, and working profit was £157,061, or 5s. 3.50d. per ton milled. This amount, added to £6,801 unappropriated at 31st December, 1915, and to £122 for dividends received, totalling £163,984, has been dealt with as follows: Dividend of 5 per cent. declared June, 1916, £41,325; capital expenditure, £20,694.

Taxation.—Profits tax and special levy for 1916 (estimated), less adjustment for 1915, £13,812; licences, rates, taxes and audit fees, £7,351; contributions under Miners' Phthisis Act, £9,140; South African income tax, £245—£30,548; rent of bewaarplaatsen leased from Government, £4,690; depreciation, £1,247; £101,504; balance unappropriated, carried forward, £62,480; £163,984.

Although the working profit was £7,675 less than for the previous year, in reality the results were better, as during 1915 a net profit of £20,276 accrued from the treatment of accumulated slimes, which were all finished in October of that year. As a matter of fact, the profits derived from mining operations, apart from accumulated slimes, and apart from sundry revenue, amounted to £123,930 in 1914, £135,151 in 1915, and £148,928 in 1916. This 10 per cent. increase is all the more satisfactory in view of the very high prices that have now to be paid for stores, and reflects the constant care and attention devoted to the matter of grade and working costs under the active supervision of your chairman, Sir Joseph Robinson, Bart. The following announcement was made in the Press at the end of last month for the information of shareholders: "The control and management of the Randfontein Estates G.M. Co., Witwatersrand, Ltd., the Randfontein Central G.M. Co., Ltd., and the Langlaagte Estate and G.M. Co., Ltd., having changed hands, the board of directors of the Randfontein Estates and Randfontein Central Companies beg to inform shareholders that both these companies are in a position to pay a dividend at the end of this current year. It has, however, been decided, in view of the change in the control of the companies, that it would be in the interests of shareholders to defer the declaration of dividends for the present year, pending the settlement of questions relating to the future development and working of the Randfontein properties. As regards Langlaagte Estate, the board decided some three months ago that, with a view to reducing the working costs of the company and improving its position, it was advisable to alter the present system of hauling from the deeper levels of the mine. The scheme is essentially one of shaft-concentration, involving the purchase and installation of electric hoists. In carrying out the work, one shaft instead of two will become the main outlet from the mine, thereby greatly reducing the cost of future shaft sinking, as well

as reducing working costs per ton. The expenditure involved in carrying out the above work will defer the payment of a further dividend for the present year."

Cost of the Work.

The cost of the work to which reference has been made is estimated at £72,000, most of which, if not all, will be spent in 1917. Although this expenditure is heavy, it is fully justified by the savings that will be made in future, as only one shaft will require to be utilised instead of two, and working costs and the cost of shaft-sinking will be greatly benefited. The scheme has been very closely gone into, and its advantages are so obvious that your board decided they were bound in the interests of shareholders to adopt it. In addition, during the forthcoming year, a rearrangement of the electric plant will be proceeded with, whereby an annual saving of close upon £10,000 will be effected at a total outlay of £13,000 or £14,000. 13,213 linear feet and 105,956 cubic feet of development were accomplished during the year, resulting in an increase of 201,657 tons in the ore reserves, which stood at 31st December, 1916, as follows: Payable.—Main Reef: 442,423 tons, valued at 6.04 dwts., over stoping width 54ins.; South Reef: 873,390 tons, valued at 5.23 dwts., over stoping width 54ins.; a total of 1,315,813 tons, valued at 5.55 dwts., over stoping width 54ins. The unpayable tonnage at the same date amounted to 791,124 tons at 2.43 dwts. Had the south reef ore reserves at 31st December, 1916, been calculated over the same assumed stoping width as in 1915—viz., 48ins., they would have given a value of 6.00 dwts., as against 5.90 dwts., at 31st December, 1915. It has been decided, however, to increase the assumed stoping width, for the purpose of calculating ore reserves, to the figure attained in actual practice, that is, 54 inches. You will see, therefore, that actually values have been well maintained, and the tonnage satisfactorily increased. The Langlaagte Estate mine has yielded a certain amount of ore continuously throughout the year, but its complete exhaustion now is estimated to be only a matter of weeks. The Block B mine is in a position to keep the mill up to its maximum capacity. Every attention has been given to the economical employment of natives, of whom an ample supply has been available. Your chairman succeeded in obtaining terms for fresh native labour contracts which were very favourable, and will save a considerable sum of money to the company. The year has not been free from difficulties connected with the dearth of good miners, so many of whom have enlisted for service in German East Africa and Europe, but as you will have seen, despite of all the drawbacks incident to the present anxious times, the mine continued to make progress and improved its profits. The management remained in the able hands of Mr. Hugh Mitchell, and to him and his staff our thanks are due for good work performed.

The strain of the constant supervision of the large concern known as the Robinson Group of Mines has, unfortunately, told upon your chairman, Sir Joseph Robinson, Bart., at his great age. He has spent the last two years in South Africa, continuously, and successfully working for improvement in the position of the Robinson Group, and he deeply deplores the severance of his connection with the company, which he has been associated with for the last 30 years.

The appointment as directors of Messrs. J. C. K. Pollock and W. H. Robinson, vice Messrs. W. H. Crawford and J. H. Crosby, resigned, was confirmed. On the

recommendation of the board of directors, Messrs. S. B. Joel, J. Munro and G. Imroth were appointed directors.

Mr. S. Fleischer and Messrs. C. L. Andersson and Co. were reappointed auditors.

This concluded the business, and the meeting terminated.

RANDFONTEIN CENTRAL.

At the tenth annual meeting of the shareholders in the Randfontein Central G.M. Co., on January 12, the chairman, Mr. J. C. K. Pollock, in his address, said: During the year ended 31st December, 1916, as you will see from the reports and accounts before you, the operations of your company resulted as follows: 2,209,622 tons were milled, producing 680,983 ounces of fine gold, valued, with sundry revenue, at £2,835,892, equal to 25s. 8.02d. per ton milled. Working costs amounted to £2,001,337, or 18s. 1.37d. per ton milled, and the working profit was £834,555 (7s. 6.65d. per ton milled). This is a very considerable improvement on the results of 1915, when the working profit was £665,788, or 5s. 3.81d. per ton milled. It has been brought about by the active co-operation of all concerned in the most energetic measures taken by your chairman, Sir Joseph Robinson, Bart., who during the last two years has devoted himself, notwithstanding his great age, to the betterment of the position of the Randfontein mines; and the result of this continuous effort successfully to place the company on a dividend-paying basis is now clearly to be seen. The improvement in working profit per ton as compared with last year is no less than 42 per cent. I may mention that in order to obtain better results, Sir Joseph gave instructions a year ago to close down the 100-stamp mills of the South, North and Robinson, and to transport the ore from those mines to the huge central mill, where treatment could be carried out more economically as regards cost and with better extraction results, estimated at some 900 ounces of gold more per month, the only reconstruction involved being the erection of surface bins adjacent to the headgears of the three mines mentioned, at an expenditure of £18,000. He also instructed that the mining policy should be radically altered, and inaugurated a drastic system of narrow stope-widths, with as a concomitant, the suspension of sorting, as the waste rock was, by closer mining, reduced to a minimum; in other words, the waste rock was left in the mine, and nothing but ore was broken as far as possible. This policy has been followed consistently during the year, despite the many difficulties attendant upon keeping stope-widths down so low as an average of 45in. throughout. In some of the Randfontein mines, indeed, where breaking conditions are more favourable, stopes have been reduced in width to 36in. and even less. Every attention has been given to the economical employment of natives, of whom an ample supply has been available, and the question has been closely studied with advantageous results. The chairman, Sir Joseph Robinson, Bart., went into this matter very fully, and entered into fresh contracts for the supply of native labour for the mines. He succeeded in obtaining terms which place this company in a favourable position, as they will save the Robinson Group no less a sum than £27,000 per annum. The concentration of operations as far as possible at the central mill has achieved the success anticipated; and it is due to this step, and also the drastic cur-

tailment of expenditure by eliminating waste in the consumption of stores and in the numbers of natives employed, coincidentally with the improvement in grade attributable to closer and more careful mining, that we are able to present to you a much better report than was the case this time last year.

Revenue and Expenditure.

I will here recapitulate the details of the revenue and expenditure account for the year:

Revenue.—Gold won, £2,835,736; sundry revenue, £156; total, £2,835,892.

Expenditure.—Development, £204,933; mining, £1,101,589; hauling and pumping, £283,334; sorting, £6,781; crushing, £14,346; transport, £40,214; milling and tube milling, £132,568; water service, £8,030; cyaniding, £162,053; general expenses, mine office, £37,815; head office, £9,674; total, £2,001,337; balance, being working profit for the year, carried to appropriation account, £834,555.

The appropriation account for the year stands as follows:

Credits.—Credit balance at 31st December, 1915, £44,463; working profit (balance of revenue and expenditure), £834,555; dividends received, £125; total, £879,443.

Debits.—Debt redemption, £91,600; debenture interest, £166,256; profits tax and special levy for 1916 (estimated), £69,936; less over-estimated for 1915, £23,958—£45,978; rates, taxes, licences, audit fees, etc., £22,913; contributions to Miners' Phthisis Funds, £43,436; depreciation, £2,060; capital expenditure, £260,930; less 156,300 reserve shares sold, £156,300—£104,630; total, £476,873; credit balance at 31st December, 1916, £402,570.

Perusal of the balance sheet will show you that this surplus of £402,570 is represented in the following liquid form: Stores on hand and in transit, £166,769; payments in advance and sundry debtors, £15,763; unrealised gold and cash in hand, £446,027; total, £628,559. Less, due to creditors for stores, wages, etc., and credit balances, £156,053; due to Government for profits tax and special levy for year 1916 (estimated), payable in 1917, £69,936—£225,989; total, £402,570.

You will see that the unrealised gold and cash in hand are practically sufficient, after discharging all liabilities to 31st December, 1916, to pay a dividend of 5 per cent. A matter that affects the dividend-paying possibilities of the company is that of profits tax, which was dwelt upon at length at the last annual meeting. The Government only allows a certain proportion of the company's expenditure as a set-off against its revenue for taxation purposes. For instance, it does not recognise debenture interest and debenture redemption as expenditure, so that profits tax has to be paid thereon. Then again, capital expenditure only ranks as an expenditure against the company's revenue to a very slight degree, as it is amortised by actuarial calculations over the life of the mine and the allowance in the early years of the mine is very small.

You will grasp the nature of the burden placed upon the company under this tax when I tell you that had we been fairly dealt with, and the 10 per cent. tax imposed on our actual net profits—that is, the surplus of receipts over all expenditure—the company would to-day have been over £151,000 to the good over the last four years. Adding the 1916 proportion of this excess taxation (£33,000) to the £112,000 extra invested in stores, owing to the war; allowing also for the difference in price which we now have to pay for stores as compared with normal times, that is about £75,000 per annum, and you will see that the company would have had practically sufficient funds in hand to have enabled it to declare a dividend of 10 per cent., after discharging all liabilities to December 31, 1916.

Dividends Withheld.

As regards the possible 5 per cent. dividend to which I have referred, I must draw your attention to the following announcement which appeared in the English and South African Press for the information of shareholders:—

"The control and management of the Randfontein Estates G.M. Company, Witwatersrand, Ltd., the Randfontein Central G.M. Company, Ltd., and the Langlaagte Estate and G.M. Company, Ltd., having changed hands, the board of directors of the Randfontein Estates and Randfontein Central companies beg to inform shareholders that both these companies are in a position to pay a dividend at the end of this current year. It has been decided, however, in view of the change in the control of the companies, that it would be in the interests of shareholders to defer the declaration of dividends for the present year, pending the settlement of questions relating to the future development and working of the Randfontein properties."

I wish to record that it was the desire of those who now control and manage the company that no dividend should be paid, so as to give them time to ascertain what policy should be inaugurated in connection with future operations on the Randfontein properties.

The great improvement effected during the year is revealed at a glance by comparison of the liquid items of the balance sheets at December 31, 1915, and December 31, 1916:—

Liquid Assets.			
	31/12/16	31/12/15	Inc.
Stores	£166,769	£133,751	£28,018
Debtors and payments in advance	15,763	14,721	1,042
Unrealised gold and cash	446,027	236,359	209,668
	£628,559	£384,831	£243,728
Liquid Liabilities.			
	31/12/16	31/12/15	
Sundry creditors	£156,053	£279,368	£123,315a
Profits tax and levy	69,936	66,000	3,936b
	£225,989	£345,368	£119,379a

a Decrease. b Increase.

As the total increase in liquid assets is £238,723, and the total decrease in liquid liabilities is £119,319, the improvement is therefore £358,107, and this figure is proved by subtracting the amount of £44,463 brought into appropriation account from 1915 from the amount of £402,570 carried into 1917 appropriation account.

It is a hopeful augury for the continued success of the company that the results of the second half of the year, as tabulated below, were so much better than those of the first half:—

1916.	Tons milled.	Revenue.	Expenditure.	Working profit.
		£	£	£
1st half	1,085,1871	1,385,140	1,014,534	370,603
2nd half	1,122,751	1,450,752	986,803	463,949
	2,209,622	2,835,892	2,001,337	834,555
	1st half 1916	2nd half 1916.		Per ton
	Per ton milled.	Per ton milled.		milled
Revenue	25/5.86d.	25/10.11d.		0/4.25d. inc.
Expend.	18/8.03d.	17/6.94d.		1/1.09d. dec.
Working profit.	6/9.83d.	8/3.17d.		1/5.34d. inc.

I think you will agree that the figure of 17s. 7d. per ton milled for working costs is a very satisfactory one, despite the current high prices for stores, and reflects the care and unremitting attention bestowed upon the expenditure of the company.

Capital Expenditure.

The capital expenditure for the year is £9,809 less than it was for 1914 and £59,390 less than for 1915, so that, in addition to the large improvement reported in working profit as compared with last year, it will be seen that considerable progress has been made towards the attainment of a minimum of capital expenditure, thereby freeing a greater proportion of the profits for distribution in the form of dividends. Taking

the present position of the company, and especially having regard to the improvement in the ore reserves to which I shall presently refer, there is no room for other than healthy optimism in viewing the prospects of your enormous property. It was reported to you at last meeting that 156,300 of the company's reserve shares were under option at par, and these were taken up during the year by the Randfontein Estates, the board of directors being convinced that it was in the best interests both of the parent and subsidiary company that development should be pushed on with vigour. This policy has borne good fruit, as development is now well ahead. The increase in the payable ore reserves, worth 5.4 dwts. and over, was just on to half a million tons, as at the end of 1915 the reserves stood at 4,449,324 tons, and at the end of 1916 at 4,944,302 tons. This is the outcome of the heavy footages accomplished, namely, 112,026 linear (including 2,151 feet of shaft sinking) and 482,246 cubic. It is a most satisfactory feature of the position that the year's work increased the value of the whole of the payable ore reserves from 7.4 dwts. to 7.8 dwts., and no less than 80 per cent. of the tonnage developed during the year was payable. This is an excellent percentage. I may say that recent disclosures in the centre of the property have been very promising.

Profits Tax Anomalies.

The grave handicap to shaft-sinking at several of our mines, due to the non-delivery of the electric underground hoists ordered before the war from English firms, whose factories are now controlled by the Ministry of Munitions, has been almost completely overcome by ingenious adaptations of electric surface hoists. As regards profits tax, which was dealt with at length at last annual meeting, the chairman of the company did his utmost to show the Government the injustice which is being inflicted upon the mining industry, but they remained obdurate, and went even further and reimposed the £500,000 special levy upon the mines in addition to the profits tax.

During the year we have continued the fight with the anomalies of the profits tax as its provisions affect companies such as yours, and the matter will come before the Supreme Court for decision at an early date. The interests of shareholders are constantly watched in the important matter of undue taxation, which imposes so enormous a burden on the company. Notwithstanding that our contributions to the Government under the Miners' Phthisis Act continued on the same scale as last year—that is, between £40,000 and £50,000—we have, in the interests of the underground workers, installed three powerful ventilating fans in order to ensure a constant supply of fresh air to the drives and stopes. To make underground conditions as attractive as possible is good policy, especially at a time like the present, when efficient workers are not so plentiful owing to migration and recruitment. It affords the board the greatest pleasure to express their thanks to the general manager, Mr. D. H. Thacker, as well as to the various mine managers, Messrs. J. W. S. Beatty, E. C. Homersham, R. M. Kayser, T. Kerr, G. O. Paterson, T. Retief, and E. M. Weston; the chief electrical engineer, Mr. T. P. E. Butt; the chief mechanical engineer, Mr. A. Lithgow; Mr. W. J. L. Moreom (engineering staff), also the general staff at the mines and at the head office for their untiring and successful efforts during the year, which have been greatly appreciated by the chairman, Sir Joseph Robinson, and his colleagues on the board of directors.

Largest Mill in the World.

As regards the machinery, you are no doubt aware that the central mill, with tube-mills, represents about 1,000 stamps, and that it is the largest mill in the world. The equipment of the reduction works, comprising this huge mill, with sands and slimes tanks and Butters filter plant, is in perfect order and operates most efficiently and well. The same remark applies to the remaining underground and surface equipment of the property, which is in excellent condition. The whole of this company's requirements of electric current for purposes of lighting both on surface and underground, and for driving the stamps

of the big mill and the pumping of water from the mines, as well as for the hoisting and lowering of men, materials, and rock, is supplied from the up-to-date power station of the Randfontein Estates Company at a very low cost. This power station is amply equipped for all the requirements of the mines, and contains some of the finest machinery on the Witwatersrand for the efficient generation and distribution of electric current at minimum expense. I may say that the mines of the company are at present in splendid shape, the greatest economy being observed as regards costs of working, and I venture to say that I feel confident that the management of the Randfontein mines at the present time stands second to no other mine on the Witwatersrand. It only remains for development to be continued on an adequate scale for progress to be assured. It must also be borne in mind that on the termination of the great war the cost of all mining requisites will come down very considerably, and these costs are, in connection with the working of so enormous a property as the Randfontein Central, a very important item affecting profits. Thus, if we view the position as the property stands to-day and what it is likely to be when the quantity of ore crushed is largely increased, and a reduction in working costs brought about, it becomes evident that the Randfontein Central, with its extensive reefs, must play an even more important part in the gold production of South Africa.

I now have much pleasure in moving the adoption of the reports and accounts for the year ended 31st December, 1916.

Mr. Scholtz seconded, and the motion was carried.

The appointment of directors was proceeded with, and the auditors were re-elected.

RANDFONTEIN ESTATES.

Mr. J. C. K. Pollock presided over the annual general meeting of shareholders of the Randfontein Estates G.M. Co., held at Mayfair, Jan. 12, the other shareholders present being Messrs. N. J. Scholtz, W. H. Robinson, J. H. Tyler, S. C. Black, J. S. Benjamin, A. E. Sprinz, J. Stephen, B. Moses, M. L. Pessen, J. A. Yule, Edg. Hyman, A. Rosenthal, F. Mills, W. J. Reid, W. H. Treloar, J. B. Chapman, H. Mitchell, J. T. Halse, F. E. Williams, T. D. Bell, W. R. Keating, A. M. Hunter and the secretary, Mr. W. H. Crawford.

The chairman, in moving the adoption of the report and balance sheet, said:—

Gentlemen.—The accounts for the year ended 31st December, 1916, now before you, show that the revenue of the company for the year amounted to £224,144, and the expenditure in the form of working costs to £12,427, the balance carried to appropriation account being £212,017. The revenue comprises dividends, debenture interest received, and sundry receipts. The appropriation account stands as under:—

Credits: Balance at 31st December, 1915, £320,128; balance of revenue and expenditure account, £212,017; redemption of Randfontein Central Debentures held by this company, £91,600; discount on debentures purchased for redemption on 1st March, 1916, £7,813; total, £631,558.

Debits: Debenture interest paid out, £109,108; debenture redemption, £61,100; capital expenditure on shares, £156,300; sundries, £2,932; licences, £159,252; rates, taxes and audit fees, etc., £7,131; sundries, £511; balance unappropriated—carried forward, £294,206; total, £631,588.

Of the balance brought into the period, viz., £320,128 0s. 11d., the sum of £156,300 was appropriated for the exercise of the option held by the company over 156,300 Randfontein Central reserve shares at par, leaving £163,828 0s. 11d., and as the balance carried forward into 1917 is £294,206 10s., it will be seen that the ordinary operations of the com-

pany resulted for the year in a surplus of £130,378 9s. 1d., or over 4 per cent. on the issued capital of the company.

It has to be borne in mind, however, that no dividends were received from the Randfontein Central Company, in which you hold so huge an interest, and it has been fully explained in the chairman's speech at the meeting of that company just held that it could have declared a dividend of 5 per cent. after meeting all its liabilities to 31st December, 1916, had it been decided to make a distribution.

The same rate of dividend that may be paid by the Randfontein Central can also be paid by your company even if it possessed no other source of revenue whatever, so you will easily be able to grasp what dividend declaration is possible in the future when the necessity for large appropriations for capital expenditure no longer prevails.

The Dividend.

On the subject of dividend, I wish to draw your attention to the following announcement, which was published in the English and South African newspapers for the information of shareholders towards the end of last month:—

"The control and management of the Randfontein Estates G.M. Co., Witwatersrand, Ltd., the Randfontein Central G.M. Co., Ltd., and the Langlaagte Estate and G.M. Co., Ltd., having changed hands, the board of directors of the Randfontein Estates and Randfontein Central Companies beg to inform shareholders that both these companies are in a position to pay a dividend at the end of the current year. It has been decided, however, in view of the change in the control of the companies, that it would be in the interests of shareholders to defer the declaration of dividends for the present year, pending the settlement of questions relating to the future development and working of the Randfontein properties."

It was the desire of the new control that the dividend should be passed to afford them an opportunity of laying down their policy as regards the future of the Randfontein properties.

It was reported to you at the last annual meeting that this company held an option over 156,300 Randfontein Central reserve shares, and these shares were taken up during the year, the board of directors being convinced that it was in the permanent interests of the subsidiary, and therefore of the parent company, that development should be pushed vigorously. This policy has been fully justified, as development is now well ahead. The increase in the payable ore reserves, worth 5.4 dwts. and over, was just on half a million tons, as at the end of 1915 the reserves stood at 1,149,324 tons, and at the end of 1916 at 4,911,302 tons. The footages accomplished were very heavy: 112,026 linear (including 2,151 feet of shaft sinking) and 182,246 cubic. The ore opened up during the year was of so satisfactory a value that it raised the whole of the payable ore reserves from 7.4 dwts. to 7.8 dwts. The unpayable development was a comparatively small proportion of the total, viz., 20 per cent. The operations of the Randfontein Central for the year were as follows: Tons milled, 2,209,622; revenue, £2,835,892 (25s. 8.02d. per ton milled); expenditure, £2,001,337 (18s. 1.37d.); and working profit, £834,555 (7s. 6.65d. per ton milled). The increase in working profit as compared with 1915 amounted to £178,767, and the rate per ton went up from 5s. 3.81d. to 7s. 6.65d., or over 40 per cent. The second half of the year 1915 showed an increase of £93,343 in working profit over the first half, and costs were reduced during the last six months by 1s. 1d. per ton to 17s. 7d. per ton. This is a very reasonable figure in view of the high prices that have now to

be paid for stores, and is a measure of the success that has attended the efforts of all concerned. Capital expenditure was reduced by £59,390 comparing 1916 with 1915.

Your chairman, Sir Joseph Robinson, Bart., gave instructions a year ago whereby centralisation of ore treatment at the central mill was brought about with advantage to working costs and extraction, and a system of closer mining augured involving the reduction of stope widths to a drastic extent; he also arranged very favourable native labour contracts. All these steps, and the close study given to the questions of economising the numbers of natives employed and the stores consumed, have contributed to the much better results of the year, and the greatly improved aspects of the property.

The annual report of the manager of the power station is attached. The total costs amounted to £93,625, or 0.2092d. per unit delivered to consumer, a fresh low record. The current delivered to consumer totalled 107,405,588 units.

Your chairman, Sir Joseph Robinson, Bart., deeply regrets his severance with the company, but the heavy exertions he has been called upon to make during the last two years, which he has spent continuously on the property, and which have resulted in a gratifying transformation of its position and prospects, have told upon him at his great age, and he feels that he is no longer able to bear the strain involved in constant supervision of the properties comprised in the Robinson Group.

You will, I am sure, realise that if the Randfontein properties are carefully and ably managed there is a great future for them. The great extent of land belonging to this company, comprising 31,726 acres, the larger portion of which is still unexplored, makes it certain that if prospecting is intelligently carried out on an adequate scale, it is impossible to forecast what will yet be discovered on the Randfontein Estates.

The mines which are now working have been placed on a dividend-paying basis; they are well managed and stand second to none on the Rand from this point of view. There is no doubt that if development is carried out adequately in future these mines will show far better results than at present. You will therefore be able to realise that as the Randfontein Estates is the holder of the great bulk of Randfontein Central shares it must partic-

ipate to a large extent in the enhanced dividends and profits which are likely to accrue as time progresses and the mines become more developed, and when normal conditions are restored after the war.

I now have much pleasure in proposing the adoption of the reports and statements of account for the year ended 31st December, 1916.

Mr. Scholtz seconded, and the motion was agreed to.

The appointment as directors of Mr. J. C. K. Pollock and Mr. W. H. Robinson (vice Mr. W. H. Crawford) and Mr. J. H. Crosby, resigned, was confirmed, and Messrs. S. B. Joel, G. Imroth, and J. Munro, on the recommendation of the board, were appointed directors.

Mr. S. Fleischer and Messrs. C. L. Andersson and Co., were reappointed auditors. This concluded the business.

MESSINA (TRANSVAAL) DEVELOPMENT, CO., LTD.

The annual ordinary general meeting of the Shareholders of the Messina (Transvaal) Development Co., Ltd., was held at Salisbury House, London Wall, London, E.C., on Wednesday, November 29, 1916. Mr. C. F. H. Leslie (chairman of the company) presided.

Mr. A. A. Kelsey (secretary) read the notice convening the meeting and the report of the auditors.

SALIENT FEATURES OF THE YEAR'S WORK.

The Chairman said: Gentlemen, with your permission we will take the report as read, and I will at once proceed to say a few words on what I regard as the salient features which have occurred since the last annual general meeting. Of these features there is only one that is personal, and that is the resignation of Mr. H. C. Hoover from the directorate of this company. The reason of this resignation has been stated in the fewest possible words in the directors' report, and I think, perhaps, I should remind you that Mr. Hoover's duties in respect of his chairmanship of the Belgian Relief Committee involve an immense amount of labour and responsibility, as well as frequent absences from this country. I can only admire the courage and other great qualities of character which have enabled him to carry out this difficult work, and hope that when the necessity for this work has passed he will once more join the directorate of this company. (Hear, hear.) I take this opportunity of acknowledging the great services he has rendered to the company since he and I joined the board at a somewhat critical time, and the great assistance he has given to me in the many difficult questions which at that time demanded, and have since received, as I believe, a satisfactory solution. The next matter is of more cheerful import, namely, the settlement of the account in connection with the Canadian Agency debentures. We have received an amount of £32,500 in respect of this claim, and there is a further amount to be received in respect of interest, which we hope will come in at some future date.

THE ACCOUNTS.

To turn now to the balance sheet, we have dealt with the depreciation, as you will see, on a liberal scale. It has seemed to the board that this is particularly necessary in the case of a mine such as this, with an uncertain life, and I do not think that any Shareholder will criticise our policy in this matter. I need not allude further to the balance sheet, except to point out that we are slowly and surely arriving at quite a strong financial position. With regard to the profit and loss account, taxation is a most formidable item, and the excess profits duty is as yet an undermined amount. We have stated the accounts to the best of our ability pending an appeal to the authorities on this item. As the accounts are stated, it appears that we have to pay to the South African Government £42,600; to the British Government, in respect of excess profits tax for 1916, £105,000, and in respect of income tax for 1916, £113,000, making a total of £160,600, while Shareholders receive a net return, after deduction of income tax, of £60,000. In other words, out, of, say, £221,000 available net profit the British and South African Governments take rather less than three-quarters and the Shareholders rather more than one quarter, while the mine which produces these profits by reason of the annual extraction of ore is being exhausted.

A DOUBLE BURDEN OF TAXATION.

From these figures you will see that this company is paying both income tax and profit tax in South Africa, and is the only company, as far as I am aware, operating in South Africa which is under this double burden. We continue to make representations to the authorities in South Africa on this anomaly, as yet without success. We are aware that the present times are unfavourable to those whose duty it is to request remissions of taxation. We do not, however, despair that

these representations will eventually receive the favourable consideration from the South African Government to which, as we believe, they are justly entitled. You will also see how inequitably the excess profits tax falls on this particular company. We are putting our case before the Special Commissioners with the confident expectation that their decision will enable us to adjust in favour of the shareholders a considerable portion of the amount we have reserved in respect of this item. With reference to the item of income tax in South Africa, there will be some return to be made to the company as rebate on income tax here, on which point we will see that the shareholders' interests are protected, but this consideration is only applicable as from April 6, 1916, and is not dealt with in the present accounts.

MINING POSITION.

I now come to the position of the mine itself, and I find that Mr. Emery's wholly admirable report has left me little to say. The first twelve paragraphs of this report give the position concisely and accurately, and answer, as far as I am aware, every question that could conceivably be raised. There are, however, some features of the operations at the mine to which attention may be drawn, and to which I will briefly refer. The development results have, on the whole, been very satisfactory, and are reflected in the improved ore reserve position shown. Whereas at the end of June, 1915, there were 131,700 tons of proved ore, containing 6.63 per cent. of copper, we have at the end of the period under review 151,409 tons, containing 5.23 per cent. of copper. The possible ore—that is, ore regarded as not fully developed—shows corresponding figures of 43,700 tons, containing 3.74 per cent. of copper, and 56,652 tons, containing 3.43 per cent. of copper. The position is well summed up in your manager's statement to the effect that the copper contents of the total reserves of proven and possible ore are only 5 per cent. less than that of last year's reserves, and this notwithstanding the fact that the ore production for the year was the greatest in the history of the mine.

THE MOST IMPORTANT DEVELOPMENT.

The most important development accomplished is the discovery on the 7th level, and the subsequent opening up on the 6th and 8th levels, of what the manager terms the new Gringo shoot. It would appear to be another ore occurrence in the bonanza vein system, very similar to those encountered in this section on the 4th and 5th levels. On the 7th level the length and width so far exposed indicate that this shoot of ore may be expected to furnish a very considerable tonnage of ore of a grade above that of our present reserves. The work so far carried out on the 6th level, while proving the upward continuation of the shoot, is not yet sufficient to indicate the extent of it, though the results so far are very promising. On the 8th level, however, the development of this shoot since the end of the financial year has been attended by very satisfactory results. In a cross-cut from the footwall lode the first 15½ ft. of ore exposed gave an average of over 13 per cent. copper. The last advices from the mine indicate that the ore at this point has a width of at least 35 ft., though the value, as a whole, is not as good for this width as that just mentioned for the first 15 ft. exposed. That too much expectation must not be based on individual occurrences of rich ore in this mine is emphasised by a cable just received from Mr. Emery, from which we gather that the ore body, so far as now opened out on the 8th level, does not exceed in value that opened out on the 11th level, where to-day we have

found 6 per cent. ore over a width of 60 in.; there is nothing at the moment in the deeper ground of the main workings calling for special mention.

INTERESTING EXPLORATIONS.

As may be noted from Mr. Emery's report, some interesting work is being done on the "F" lode in the working of No. 11 shaft, and we are looking forward with some interest to the results when the cross-cut on the 2nd level reaches the vicinity of this shoot. In what is known as the Harper workings, on the Vogelzang farm, some ore of very good grade has been developed on No. 1 level since the date of this report. It is the intention of the Board to continue to spend a moderate amount monthly in such exploration work as this, and in testing many of the numerous ore occurrences indicated by old native workings. It is true that many of the extensions in good grade ore throughout the mine are very short, but this is characteristic of the ore deposits at Messina, and it serves again to demonstrate the difficulties under which development work has to be conducted. In referring, as I have done, to the satisfactory character of the development results for the past year, I must emphasise the necessity of your not regarding this as any criterion of what may be expected year by year. The ore in the main is an extremely difficult one to follow, and the values occurring as they do in short disconnected bunches make anything but simple the matter of their location.

FORTUITOUS CIRCUMSTANCES.

The whole tenor of the managers report on the development operations is indicative of our success last year as having been due more to a set of fortuitous circumstances rather than that it was something that might have been expected. It is the intention of your Directors to have the further development of the mine pushed on as rapidly as possible, and while we look forward hopefully to meeting with the success such a policy would seem to deserve, I feel impelled to say that we should desire in some directions a more assured outlook. The No. 5 shaft was sunk 325 ft. during the year, and since the date of the report a further 96 feet have been sunk, making a total depth of 1,736 ft. With the completion of the lift now in hand, it is intended to suspend shaft sinking for the present, and proceed vigorously with the lateral development of the mine down to the No. 16 level. I feel that the general manager is to be commended on the action he has taken in having secured assistance for the purpose of placing the study of the Messina ore deposits on a more scientific basis, and already the results obtained are most encouraging.

METALLURGICAL OPERATIONS.

Turning to the metallurgical side of the operations, we find every reason for regarding the work of the management as having been satisfactory. The tonnage milled—111,909 tons—is a record one, and the recovery in that section of the plant has been steadily improved, until for the last five months of the financial year it averaged almost 91 per cent. The latter is specially good when it is realised that the grade of ore treated has been below that of former years. In this department, as in the smelting and power plants, there has been effected an improvement which has been reflected in better running time, and, and, in the case of the two former, in more efficient metallurgical work. With reference to the copper output since the date of this report, I have before me the production figures for July, August, September and October last. In these four months we have produced concentrates and matte

containing 1,873 tons of copper—a figure which shows that we have been able to maintain last year's rate of production. The price, however, which we shall realise for this copper will probably exceed the average of last year by £30 to £40 per ton, so that the maintenance of our output to that date may, from every point of view, be regarded as entirely satisfactory. (Cheers.)

QUESTION OF THE MINE'S LIFE.

To give you a summary of my view, and that of the board, on the position as a whole, I feel that I ought to emphasise the fact that it is not possible to estimate the life of the mine. Our experts, quite rightly, will not say anything as to the life of the mine, except that which they can see, and what their experience enables them to deduce therefrom. They will not guess—guesswork is no basis for a sound calculation of ore reserves—yet somehow I feel that the position has improved during the last 12 months, and that we are entitled to be hopeful. Possibilities have been shown to exist which were not manifest a year ago, and the present price of copper, namely, £167 per ton for best selected, as compared with the realised price for the period under review—namely, £117 per ton—is a satisfactory feature, and, if maintained, will more than compensate for the increased cost which must result from causes with which every industrial concern the world over has now to reckon. In conclusion, I desire to point out that the various reports which have been put before you constitute a record of good work performed at the mine during the past year, and I feel sure you will wish me in sending our thanks and appreciation to those who are responsible for it, namely, our general manager, our officials, and staff at Messina. (Cheers.) I now move: "That the directors' report, together with the balance sheet and accounts, for the year ended June 30, 1916, be, and are hereby received and adopted." I will ask Mr. Frecheville to second the motion, and afterwards I shall be glad to reply to any questions which shareholders may wish to ask.

Mr. R. J. Frecheville, M.Inst.C.E.: I beg to second the resolution.

SHAREHOLDERS' VIEWS.

Mr. Nicholson, referring to the securities against loan, observed that that item was put down at £25,000. He did not know how that amount was arrived at—whether or not the securities were valued at their prices on the date when the accounts were made up, but some of them were distinctly speculative, and their value, he thought was rather doubtful. He wished to know whether, in the board's view, 25,000 really represented about the value of those securities at the present time? As to the profits tax, it seemed to him that they were being taxed on a very unfair basis, because, if it had not been for an unfortunate accident with regard to the finances the Messina mine would have been earning good profits before the war. A mine, as everybody knew, required considerable expenditure to bring it to the producing point, and shareholders had to wait without dividends for some time; therefore it was very unfair, directly it began to earn profits, to compare those profits with previous years when it necessarily had none. With regard to the debentures, as their price was fairly low, and they would soon have to begin redeeming them, he thought it would be advisable for the company to buy some of them at the present price if they had any funds available for doing so. With regard to the staff at the mine, they had done very excellent work, and he would like to know whether the directors were going to make recognition of that, apart from giving them a vote of thanks.

Mr. Radley inquired upon what principle the copper was sold? With regard to the development of the coal mine, he noticed that it was not the intention of

the directors to proceed with it. He wished to know the reason for that, because it seemed to him that it might be an asset of a favourable nature if it were proceeded with.

CHAIRMAN'S REPLY.

The Chairman: With regard to the valuation of the securities, I must admit that they are very speculative securities, but because that is so it did not seem to the directors that they ought to withhold dividends from the shareholders. We have formed our valuation of a great part of these shares both on the basis of the price at which we have actually sold some of them and on offers we have received for others. Take, for instance, the Emha Caspian shares. Well, we had at June 30 last 20,850 of those shares. I see that since July, 1916, we have actually sold 8,650 of those shares at an average price of 10s. 1½d., and it does not seem to me unreasonable to calculate that we shall receive that sort of price for the remaining shares. The next security—the Edmonton Land Syndicate—has gone into liquidation, but at an interview I had with the liquidator he gave me every assurance that in all probability the whole of the share capital, or, at any rate, 90 per cent. of it, would be repaid to shareholders. With regard to the Santa Gertrudis Co., that is a share which is readily negotiable, and the price is measurable in the daily press. With regard to the debentures of the St. Petersburg Land and Mortgage Co., we definitely received an offer of something over £10,000 for those debentures, but we did not feel inclined to part with them at that figure; and there are certain other shares, too, of more or less uncertain value. I think that if you take the information I have given you this morning you will see that £25,000 is not an unreasonable figure to put on the whole of those assets, more particularly as there is no immediate occasion for us to sell the shares except when a demand for them arises. With regard to the excess profits question, I quite agree with most of what Mr. Nicholson said. I will not go into the matter in detail this morning, because we shall have to go into it fully before the proper authorities, and I do not think it is advisable that we should say anything which would affect a matter that is, so to speak, still sub judice.

THE DEBENTURES.

With regard to the redemption of debentures, I think it would be advisable for this company to apply its funds in the redemption of the debentures if we can buy them at reasonable prices. I believe it would be a great saving to the shareholders if we did so; but there are many considerations which occur in looking at this matter. For instance, supposing we redeemed £100,000 of debentures, and we saved thereby £6,000 a year, we have got to remember that of that £6,000 a year 60 per cent. would go to the Government and 40 per cent. to ourselves. There are so many of those questions that arise on the incidence and application of the excess profits tax that we ask you to leave it to the directors, who are not unmindful of these things, to adopt an opportunist policy, and to do from time to time what seems to be best in the interest of the shareholders. Then, with regard to the recognition of the services of the employees at Messina, I quite agree with what Mr. Nicholson has said on this matter, and it was only the day before yesterday that I gave instructions for a telegram to be sent to our general manager at Messina requesting him to cable his recommendation as to the bonus to be given to the employees.

HOW THE COPPER IS SOLD.

With regard to Mr. Radley's questions, the copper is sold forward for delivery over periods of a year, or sometimes longer. We have considerable latitude in the deliveries we are allowed to make, and the price we are paid for it is based

on the price of best selected on the day on which the first truck of concentrates reaches the smelter, less a returning charge for treating the product. With regard to the Lilliput coal mine, that coal is quite useful to us in comparatively small quantities, and such quantities as we require for smelting a certain portion of our product—that is to say, producing matte instead of concentrates. But any development beyond the coal which we require for that purpose would not be profitable to the Company, because there is no sale for it in the district, and that is the reason why we do not propose to develop the colliery to a greater extent. It may be, having regard to the current prices for freight, which, as you all know, are very high, it would pay us to produce more matte and less concentrates, which is an alternative we have under our selling contract; in that case we might want more coal, and we might under those circumstances have to take some of the adjoining coal. As a matter of fact, we made an inquiry from our general manager on that point within the last fortnight. As at present advised, however, we think the coal which we have, and which we are working, will give us what we require for our purpose. I think, gentlemen, I have answered all the questions which have been put, and I will now put the resolution to the meeting.

The resolution was unanimously carried.

The Chairman: The next resolution is that a final dividend of 1s. per share be paid on December 1. I will ask Mr. Agnew to second that resolution.

Mr. J. A. Agnew, M.I.M.M., seconded the resolution, which was unanimously carried.

Mr. Frecheville proposed the re-election of Mr. C. F. H. Leslie and Mr. J. A. Agnew, who retired, and were eligible for re-election as directors.

Mr. Radley seconded the motion, and it was carried unanimously.

Mr. Tilling proposed the re-election of Messrs. Allen, Attfield and Co. as auditors for the ensuing year at a fee of 40 guineas.

Mr. Matthews seconded the resolution, and it was carried.

THANKS TO DIRECTORS.

Mr. Francis Moore: Before we break up I think the shareholders will entirely support me when I say that we should like to record how much we appreciate the services Mr. H. C. Hoover has rendered to the company, and our very great regret that he has been compelled to retire from the board. I am quite sure that, although he is no longer on the board, he will remain a friend of the company, and will always be willing to help you if it is necessary. I have known Mr. Hoover for some years, and I appreciate fully his splendid energy and ability. We all much regret that we are losing him from the board. (Hear, hear.)

A shareholder proposed a vote of thanks to the chairman for presiding, and remarked that Mr. Leslie had proved invaluable to the company since he joined it.

Mr. Nicholson, in seconding the motion, said that the chairman joined the company when the circumstances were extremely difficult, and the shareholders undoubtedly owed the present satisfactory position of the company very largely to the ability with which Mr. Leslie had handled the company's affairs. Certainly, he thought they ought to pass a vote of thanks thanks to the chairman and the board generally for the trouble they had taken.

The vote of thanks was carried unanimously.

The Chairman, in returning thanks, said he need only tell them that to the best of their ability they had done what they could to make the company prosperous in the past, and they would not neglect to do so in the future.

The proceedings then terminated.

SOUTH AFRICAN RAILWAYS & HARBOURS.

CAPE SUMMER SEASON.

CHEAP TICKETS will be issued one day each week during the period 7th January to the end of March, 1917 (February, from stations north of Mafeking), to Capetown, stations Capetown-Simonstown, and Somerset Strand; and to Mossel Bay, George, Port Elizabeth, Port Alfred and East London one day each week during period 7th January to end of February, 1917, from stations in the Transvaal, Orange Free State, Rhodesia (north of Mafeking) and B. & M. & R. Railways, and from certain stations in the Cape Province.

DAYS OF ISSUE IN THE TRANSVAAL:

TO CAPETOWN, etc.—By the 3.30 p.m. special train ex Johannesburg, via Fourteen Streams, on Wednesdays or nearest suitable connection to join that train. Stations south of Union to Vereeniging by the 9 p.m. train ex Johannesburg on Wednesdays.

TO EAST LONDON—Tuesdays.

TO PORT ALFRED—Saturdays.

TO PORT ELIZABETH—Wednesdays.

TO MOSSEL BAY and GEORGE—Sundays.

For full particulars regarding Fares, etc., see booklets.

Johannesburg,
January, 1917.

W. W. HOY,
General Manager.

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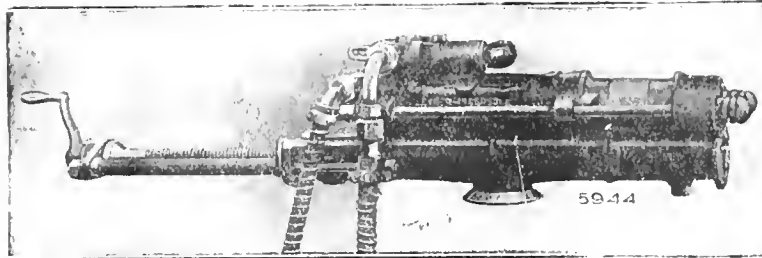
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W. R. GRACE, V.P. & Treas.

GEORGE DOUBLEDAY, President.
F. A. BRAINERD, Secy.

J. H. JOWETT, Gen. Sales Mngr.

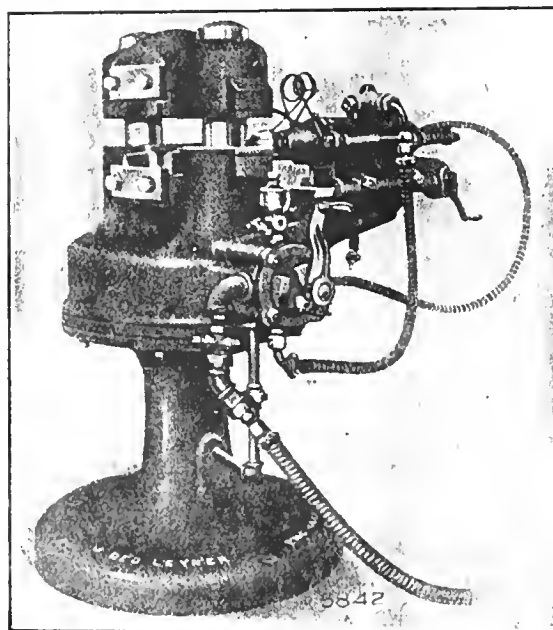
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